



Hormones. What Are the Risks?

Androgen deprivation therapy (ADT), often referred to as “hormonal therapy”, has had an important role in the management of men with prostate cancer for over 60 years. In the early 1940’s it was observed that the withdrawal of the male hormone testosterone in men with advanced or metastatic prostate cancer led to improvements. At the time it was a revolutionary concept.

For many years hormonal therapy could only be provided by surgical removal (orchidectomy) of the patient’s testicles, the main source of the male hormone testosterone. In the last two decades numerous drugs have been developed to offer the same results without the need for surgery. The most common method of ADT now prescribed is “injection therapy”, which works by preventing the production of testosterone.

While the use of hormone therapy has been the standard of care for men with advanced prostate cancer for many years, only recently has this been applied to men with early prostate cancer. However, as the length of treatment increases, the potential for side effects related to chronic lack of the male hormone may become visible and may affect men’s quality of life.

Generally well tolerated, ADT has a number of potential side effects. The

most common ones, all related to the loss of testosterone, include hot-flashes, loss of libido (sex drive), weight gain, anemia (decrease in red blood cells) and gynecomastia (breast swelling). The majority of men will not be troubled but some will need treatment to deal with one or more of these side effects.

The development of osteoporosis (bone mineral loss) is a well-known complication of long-term lack of testosterone. More common with women, osteoporosis is also a risk for men receiving hormone therapy and bone fractures may occur, especially of the hip and vertebrae. Recent studies have shown that men on hormone therapy have a 7% greater risk of hip and other bone fractures. Pre-existing factors

may further increase the risk: a history of smoking, sedentary lifestyle, family history of osteoporosis or increasing age.

The bone effects appear to be more evident as the length of time on ADT increases, however, changes in bone density have been seen within the first year of treatment. Current recommendations for men who have been on hormonal therapy for greater than six months are as follows:

1. Remain physically active (at least 30 min. per day of some form of weight bearing exercise)
2. Stop smoking
3. Calcium daily intake of 1200-1500 mg per day





HOT TOPIC

Lyn Kligman, RN, MN, is an Advanced Practice Nurse at the London Regional Cancer Program, London Health Sciences Centre.

Men Too!

Paul is a 57-year-old man who works in a senior sales position. His job entails making presentations and recently he has been embarrassed by comments some of his clients have made about his “stage fright”. He gets very red in the face while speaking and sweats, having to mop his brow frequently. What they do not know is that Paul is being treated for prostate cancer.

Hot flashes are mainly seen as women’s issues but they can also affect men being treated for prostate cancer. These treatments use hormonal therapies to stop the effect of testosterone on the prostate gland. Almost 75% of men receiving these therapies will experience hot flashes varying in severity. Many men are uncomfortable talking about this symptom but just as in women, hot flashes can disrupt their quality of life.

Hot flashes usually appear suddenly and without warning. In addition to a sudden sensation of warmth, the face, scalp, neck and shoulders can become flushed and damp. Sweating is frequently followed by a sense of deep chilling and sometimes body odor may be present. While the hot flash can last only a few minutes it can take up to 30 minutes to feel “normal” again. These episodes may occur hourly! Hot flashes that occur during the night can cause sleep loss and over the long term can lead to mood changes, irritability and difficulties in close relationships.

The exact physical mechanism by which hot flashes occur is unknown. It is thought that hormones directly affect the part of the brain called the hypothalamus, which is responsible for controlling appetite, sleep cycles and body temperature. Alterations in hormone levels seem to cause the brain to sense that the body is too hot and release chemicals to cause cooling. The blood vessels in the skin enlarge to let heat escape, the heart beats faster and sweat is produced to cool the skin. The temperature of the skin surface can rise by as much as six degrees and then suddenly drop as sweating occurs.

Factors such as smoking, caffeine, hot drinks, stress, alcohol and spicy foods have been found to trigger hot flashes. Identifying triggers and avoiding or reducing them is a first step in symptom management. Lifestyle changes such as avoiding synthetic clothing materials and choosing natural fibres that ‘breathe’, using a fan, carrying cold drinks and dressing in layers may also be helpful. Sometimes none of these things are enough and prescription medications may be necessary. As always the first step is to discuss your symptoms with your doctor. **MAN2MAN**

MAN2MAN

Prostate Cancer Centre
800 Commissioners Road,
London, Ontario N6A 4G5
T: 519.685.8448
F: 519.685.8120

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Letters-to-the-editor or ideas for articles may be submitted, in writing, to the above address.

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Medical Director, Clinical Cancer Research Program
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London Health Sciences Centre

EDITORS

Nancy Pus and John Hastie

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(dietary sources or supplement)

4. Vitamin D intake of 400- 800 IU per day
5. Periodic bone mineral density testing (the best test to rule out osteoporosis)

If bone mineral changes are noticed, consideration should be given to starting one of several available medications known as bisphosphonates to prevent further bone loss and fractures.

Recent research has also uncovered a possible link with ADT and the development of insulin dependent diabetes (Type 2) and metabolic syndrome, conditions associated with a heightened risk of cardiovascular disease. Metabolic syndrome refers to a condition characterized by the presence of three of five of the following criteria:

1. elevated fasting blood sugar
2. elevation of blood triglycerides
3. low blood HDL (“good”) cholesterol
4. high blood pressure
5. increased waist circumference

In a recent study conducted at St. Joseph’s Health Care, London, we found 17% of patients on hormonal therapy had undiagnosed diabetes and 42% met the criteria for metabolic syndrome. Identifying patients who develop diabetes and/or metabolic syndrome is important, as the risk of a fatal cardiac event is increased by the presence of either of these conditions. Regular physical examinations in addition to twice yearly testing of blood sugar and lipid profiles are excellent methods of screening for these complications. Further work is continuing locally in an effort to understand how these conditions develop and find ways to prevent their occurrence.

While the information discussed in this article may seem alarming to many, it is worth emphasizing that ADT remains the most effective treatment in our arsenal for men with advanced prostate cancer. Research efforts are ongoing to gain an understanding of which patients may be at risk for complications and to develop treatment strategies that might minimize the risk to all patients. If you are receiving hormonal therapy and have questions or concerns related to your treatment, I encourage you to speak with your urologist or oncologist. **MAN2MAN**

Dr. H. Razvi
Chair, Division of Urology
St. Joseph’s Health Care, London and
London Health Sciences Centre



Donor Mike Fredericks (left) tours the prostate cancer research laboratory with the Robert Hardie Chair, Dr. John Lewis and Amber Ablack, the Hardie lab’s senior technician. Dr. Lewis has just finished demonstrating his laboratory’s state-of-the-art imaging platform for looking at the behaviour of individual prostate cancer cells during metastasis. Dr. Lewis hopes to upgrade the current platform with laser technology to speed up new discoveries for this deadliest aspect of prostate cancer.

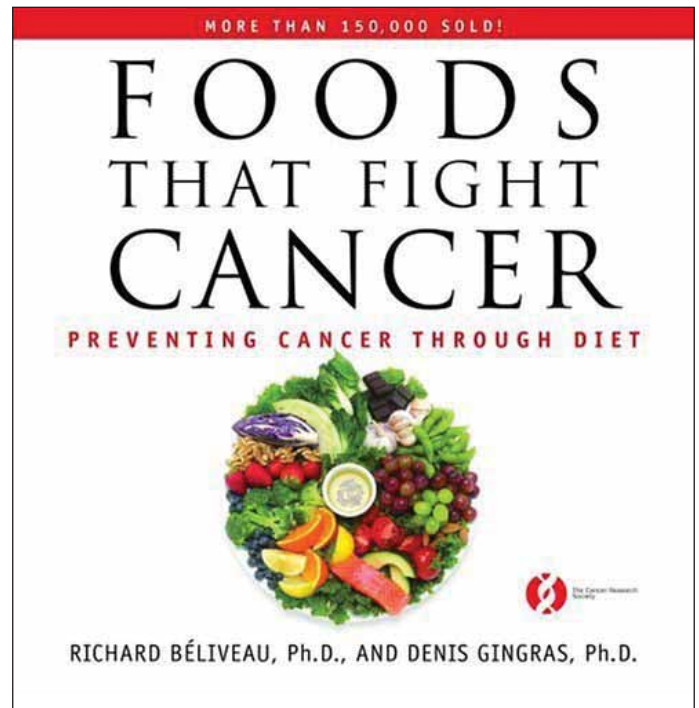


Mark Your Calendars!

- Motorcycle Ride for Dad
May 25, 2008**
- Lexus Golf Tournament
June 2, 2008**
- Do It For Dad
June 15, 2008**

Good READS

by Richard Béliveau, Ph.D.,
and Denis Gingras, Ph.D.
(McClelland & Stewart Ltd. 2006)



This book is a wealth of scientific information about the food we eat and how it plays a crucial role in development of cancer. The possibility that cancer can be directly related to diet is not a new idea. Many of us know that a diet rich in fruits and vegetables is associated with a decrease in the risk of developing the disease. But what are the specific properties of fruits and vegetables that are responsible for the anti-cancer activity? Are all vegetables created equal and do they fight all types of cancer? More importantly, how do we use this information in our daily lives?

The book is written by two scientists, Richard Béliveau and Denis Gingras, who are clearly passionate about communicating their research results to the average lay person. They have created a beautifully illustrated and illuminating book about preventing cancer that is simply stated and enabling.

The simple message is eat more foods of plant origin. Fruits and vegetables are rich in molecules called “phytochemicals” that can interfere with the processes associated with the development of cancer. The authors describe the current thinking on

how cancer develops and how different phytochemicals work in specific ways to protect the body against different cancers. It is not just the antioxidant properties of fruits and vegetables that are responsible for the positive health benefits of these foods. Resveratrol in red grapes (and ultimately red wine), carotinoids in spinach, lycopenes in tomatoes, ellagic acid in berries, genistein in soy, and yes, the polyphenols in dark chocolate are responsible for the anti-cancer properties of these foods.

Besides fruits and vegetables, other foods such as green tea, garlic, soy and turmeric spice, also contain a large quantity of anti-cancer components. Combinations of these

foods with fruits and vegetables in a daily diet are recommended and the authors include a pocket guide for daily intake. Did you know that combining turmeric with black pepper has potent anti-cancer properties!

Read it and look for “Cooking with Foods that Fight Cancer” as well (by the same authors) ... it just might change your life! **MAN2MAN**



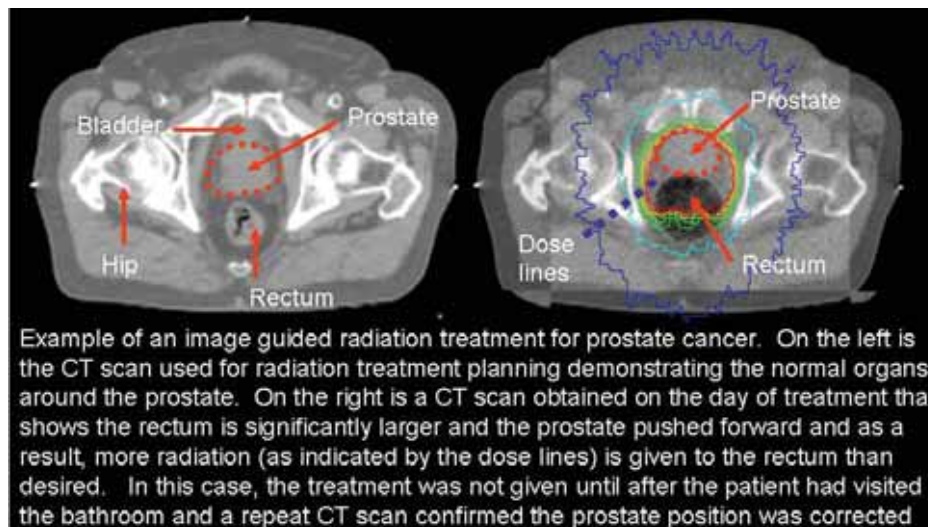
What's NEW

Advances in Image Guided Therapy

Imaging plays an important role in the treatment of prostate cancer with radiation and can provide “guidance” at many stages. Ultrasound imaging and biopsies are the typical way in which the prostate cancer is initially diagnosed. Diagnostic CT scans and bone scans can be indicated for some men to try and ensure the cancer has not spread beyond the prostate.



“CT Simulation” is routinely performed for radiation treatment planning and involves a specialized CT scan that allows your Radiation Oncologist to determine the location, size and shape of the prostate and surrounding normal tissues like the bowel and the bladder. Using CT Simulation, a three-dimensional model of your body can be constructed and a radiation plan that selectively treats the prostate and spares the surrounding tissues can be designed.



Example of an image guided radiation treatment for prostate cancer. On the left is the CT scan used for radiation treatment planning demonstrating the normal organs around the prostate. On the right is a CT scan obtained on the day of treatment that shows the rectum is significantly larger and the prostate pushed forward and as a result, more radiation (as indicated by the dose lines) is given to the rectum than desired. In this case, the treatment was not given until after the patient had visited the bathroom and a repeat CT scan confirmed the prostate position was corrected

We have learned that the position of the prostate in the pelvis can change on a daily basis due to variation in the size of the rectum and bladder at the time of treatment. Therefore a safety margin is designed around the prostate so the treatment does not miss the prostate. Our usual safety margins are 10-12 mm and allow us to give conventional, curative doses of radiation without injuring the bladder or the rectum or other normal tissues in the area.

A recent refinement in our treatments is the use of imaging in the treatment room to confirm the position of the prostate on a daily basis and is what is usually meant by “image guided prostate radiotherapy”. This imaging can occur using x-rays taken with the treatment machine, with an external ultrasound probe that is placed on the abdomen to locate the prostate or through CT scans taken by the treatment machine. Image guidance can allow us to decrease the safety margin needed to 5-7 mm and potentially allow us to give higher

total doses of radiation safely (to improve cancer control) or higher daily doses of radiation (to shorten the duration of treatment from 7-8 weeks to 4-6 weeks).

The benefits of giving higher total doses to improve tumour control or giving higher radiation doses per day to shorten overall treatment times are currently being studied in clinical trials at our centre. The majority of men receiving image guided radiotherapy in London are treated as part of these trials. In some men, the physician may be concerned about a higher than average risk of side effects or a higher chance of prostate movement on a daily basis and these men may be treated with image guidance outside of the trials. The best technique for image guidance and determining which men will benefit from image guidance is a topic of much research in our centre as well as other centres. **MAN2MAN**

Dr. Glenn Bauman,
Medical Director,
Genitourinary Disease Site Team
Chair of Oncology
London Regional Cancer Program
London Health Sciences Program

Meet THE STREAM TEAM



Hassan Razvi, MD, FRCSC
Associate Professor of Urology
Chair, Division of Urology
St. Joseph's Health Care, London and
London Health Sciences Centre

Dr. Hassan Razvi graduated from the University of Saskatchewan, College of Medicine in 1988. He completed Urology training at The University of Western Ontario (UWO) in 1993. Following a one-year clinical and research fellowship in Endourology at UWO, he spent an additional research year at the New York Hospital-Cornell Medical Centre in Endourology and Prostate Disorders.

He is the author of over 60 scientific papers and five book chapters. He has been guest professor at over 90 universities and national meetings or instructional courses throughout the world. His research interests include alternative medical and surgical treatments for benign prostatic hyperplasia, metabolic and surgical aspects of urinary stone disease and prostate cancer.

What CD do you currently have in your CD player?
Collection of Jazz and Blues favourites.

What non-medical book are you currently reading?
Beyond the White House by Jimmy Carter.

What was the best job you had as a kid? What was the worst?

Best Job: Groundskeeper.

Worst job: Paperboy during a Saskatchewan winter.

What is your idea of the perfect holiday?
Anywhere with my family where there is sun, outdoor activity and good food.

Who in the world do you most admire?
Nelson Mandela.

If you weren't in research what would you be doing?
Running my own vineyard.

What are your hidden talents?
Not sure I have any!

What qualities do you most admire in other people?
Loyalty, creativity, hard working.

What is your favourite wine?
Anything from Stag's Leap, Napa Valley.

What do you do to keep fit?
Bike, run, swim.

ASKADOC

Question:

“I've been diagnosed with aggressive prostate cancer. Radiation and hormone treatment have been suggested. Shouldn't I get chemotherapy too?”



Dr. Eric Winquist answers:

Chemotherapy refers to the use of specific drugs to treat cancer. Currently the use of chemotherapy in prostate cancer is reserved for men whose cancer has recurred or spread and is active, despite the use of hormone (androgen deprivation) therapy. Often, men in this situation have prostate cancer that has spread to the bones and may be causing problems such as bone pain. The main goal of chemotherapy treatment is to control the cancer and improve symptoms. Length of life may be improved but the treatment is not curative. Docetaxel (Taxotere®) is the drug of choice and is given intravenously over one to two hours every three weeks. It is not known whether chemotherapy can help prevent prostate cancer from recurring after surgery or radiation treatment. However, clinical trials studying whether the addition of chemotherapy improves the cure rate in men with particularly aggressive prostate cancers have opened at the London Regional Cancer Program. You should ask your doctor about these if you are interested.

Dr. Eric Winquist
Medical Director, Clinical Cancer Research Program
London Regional Cancer Program
London Health Sciences Centre

A Few Good Men

SELECT Prostate Cancer Prevention Trial

Jim Marshall has been participating in the SELECT trial at the Prostate Cancer Centre (PCC) since it began six years ago. It was his wife Joan that pushed him into getting involved, but it is the health of his sons Jamie and Doug, and three grandsons, that keep him going.

“Cancer, unfortunately, has hit everyone’s family in some way. My participation in this research study is my way of protecting the health of my sons and grandsons,” says Marshall.

The landmark trial investigates the use of vitamin E and selenium in prostate cancer prevention. The SELECT trial is a voluntary study run at the PCC in Galleria London, and has been following 1,006 healthy males over the age of 55 for the past six years. Participants have been randomized into four test groups; Group one takes the micronutrients selenium 200 mg daily, Group two takes vitamin E 400 mg daily, Group three takes both vitamins daily, and, Group four takes none of the nutrients, but instead are given placebos in place of the vitamins. None of the participants know which group they are in. The primary endpoint is the evaluation of the reduction of prostate cancer incidence in the groups.

With a history of cancer in the Marshall family, Jim is committed to working with the PCC to find the cure. Three of Jim’s brothers and his 42-year-old nephew have prostate cancer. Jim lost his wife Joan, a nurse at Victoria Hospital for 39 years, to lung cancer last April.

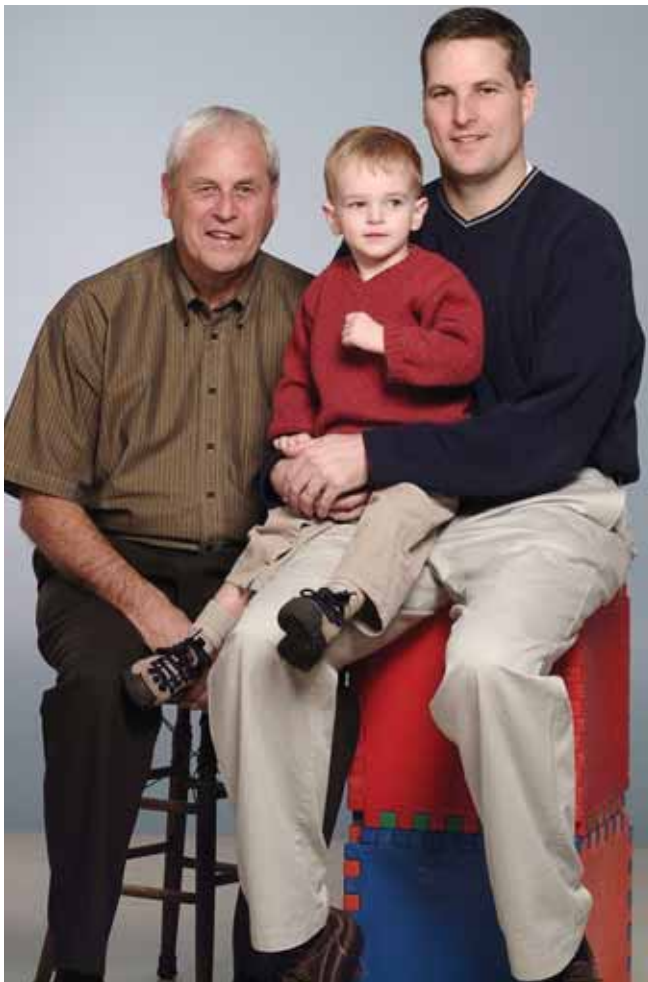
Dr. Joseph Chin, Chief of Surgical Oncology, London Regional Cancer Program (LRCP) and Dr. Eric Winqvist, Medical Director, Clinical Cancer Research Program (LRCP) are the principal investigators for the trial locally. The trial began in 2001, and London has had the largest participation in Canada.

“The interest and support for this trial in our region has been outstanding. We want to thank all our local participants for the commitment and hope they will hang in there until we get an answer,” Winqvist states.

At the age of 71, Marshall continues to be an advocate for prostate cancer screening and a speaker at the prostate cancer support group meetings. He is

spurred on not only by family history, but by a belief in the power of research and education. “If my participation can help just one person to live a life not touched by cancer, well, then I think what I am doing is pretty important,” he says.

The SELECT trial will conclude in 2012. **MAN2MAN**



Jim Marshall (far left) is a participant in the SELECT Prostate Cancer Prevention Trial for the future health of his children and grandchildren. He is shown with his son Jamie and grandson Matthew.



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We wish to acknowledge and thank Sanofi-Aventis, makers of Eligard, Xatral and Taxotere, for their continuous support of prostate cancer patient initiatives.



Prostate Cancer Centre
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