

PROSTATE CANCER CANADA - NEWMARKET

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**A support group that provides understanding,
hope and information to prostate cancer patients and their families**



Tanya Giaquinto our speaker for the May 19th meeting is very familiar to our members. Back in April 2009 she gave a talk here and she was so well received that she was invited back in November that same year. Well, Tanya is returning again by popular demand for next week's meeting. Tanya brings to us a wealth of knowledge on proper nutrition. She has worked in different clinical settings at the Sunnybrook Health Sciences Centre. She has also worked with clients at Odette Cancer Centre providing nutrition support during their treatment and after treatment is completed. Her interest lies in nutrition and prevention and she has been presenting in this area for approximately 10 years. Tanya has a keen interest in providing nutrition education to community groups and has done numerous presentations in a variety of settings over the years. She is a member of the Ontario College of Dietitians and Dietitians of Canada. Come to the meeting and get your nutrition questions answered.

Meeting Date: May 19th, 2011

**Place: Newmarket Seniors Meeting Place,
474 Davis Drive, Newmarket**

Time: 7:00 pm to 9:00 pm

Speaker Tanya Giaquinto, Sunnybrook Hospital -

Subject: Diet and your Cancer . . .

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The Newmarket Prostate Cancer Support Group does not recommend products, treatment modalities, medications, or physicians. All information is, however, freely shared.

April notes . . . Dr. Charles Catton, Princess Margaret Hospital

Subject: The Latest Developments in Radiation Therapy

At our April 21st meeting, Dr. Charles Catton from Princess Margaret Hospital gave us an excellent message on making decisions about how we should treat our prostate cancer. While his actual presentation was completed in 25 minutes, he answered questions for another 45 minutes, giving members many opportunities to get answers to their own problems. Here is what he had to say.



I'd like to talk a little bit about our approach to decision making regarding prostate cancer treatment because that's my job. I have to evaluate the situation and then I have to make a recommendation and go

through a process in order to make that recommendation. The issue is that prostate cancer varies very widely in its behaviour. A good treatment recommendation requires some ability to predict that behaviour in the future. One of the questions I ask myself first is, is this cancer in this man likely to grow very slowly and not spread if it's left alone? For some men, that's the situation. If the answer is "Yes", then obviously that cancer, if it's not to grow much and it's not going to spread, it's really no risk to his health. The best option is to leave it alone. Maybe getting rid of it is interfering and creating problems that just don't exist. So, no treatment is, in fact, an option for some men. On the other hand, if this cancer is likely to grow and spread if left alone but we know from various testing that it's still confined to the prostate, this is a cancer that is not an immediate threat to health but is a future threat to health. If that's the case then we should treat it but because it's still confined to the prostate then a treatment that's localized to the prostate should be sufficient. Then there's a minority of men, fortunately, where it is possible that the cancer has already spread in limited fashion. If that's the case, then a treatment strictly directed towards the prostate is not going to be sufficient and we have to bring in other treatments there. A local treatment will not be enough and perhaps some additional treatment which will work beyond the immediate confines of the prostate should be considered. That could be surgery plus radiation therapy, or it could be radiation therapy plus hormone therapy, or some other treatment. Those are the approaches that we have to consider. But, we need to then look at some particular factors which will help us predict how that particular cancer is going to behave in the future.

In 2011, the most important factors to consider for predicting future behavior are the Gleason Score, (where we classify the tumours as good, medium or bad scoring between 5 and 10, with 10 being bad and five being particularly good), the other thing is the rate of change of the PSA over time. (We look at the PSAs over a period of time and we see that the PSA has gone from one to two to four to eight, doubling

every so often. If it takes two years to double, that's really good, if it's taken two months to double, that's really bad. Knowing the rate of change of the PSA will help us determine how it's likely going to behave in the future.) The actual level of the PSA at diagnosis is also helpful, in other words, whatever the doubling time is, if your PSA is two that's better than if your PSA is 20. Those are two extremes but that's the sort of things we look at as well. Finally, we need to know how much cancer there is in a physical sense, so we can measure the volume of it and how extensive it is in the prostate on the basis of a biopsy, ultrasound scanning and a physical examination (DRE). These are the main factors that we consider. They are actually very good predictors of future behaviour, certainly relative of what we have for other kinds of cancer. We're kind of lucky with prostate cancer in that respect, but they are far from perfect. There's lots of room for improvement. We can divide men now into good, bad and we're not sure. The trouble at the moment is that "we're not sure" is still a majority. We'd like to take those "we're not sure" and make that smaller.

How can we do that? We can invent new and better tests and obviously there's a lot of money and a lot of time and energy being devoted to that and it's important but it's not very practical in 2011. If you've got a problem now, you don't want to wait ten years for a new test. What we should be doing in the meanwhile, while we're doing this research work, is make better use of the information that we already have available. How can we do that? Well, one way, which is becoming more and more popular and it makes a certain amount of sense, is let the cancer in some way tell you how it's going to behave- and how do you do that? Well, you just watch it. You're not going to do this for every cancer, you make some assumption that it's going to behave reasonably well but you're going to confirm that assumption by monitoring it, say for three months. If it's not different than it was previously, monitor it for another three months and so on. As long as it's not doing anything, it's proving to you that it's a well behaved cancer and probably doesn't need any treatment. If, on the other hand, it starts showing signs of progression, [either the PSA is going up again or the tumour is getting bigger on ultrasound scan or a biopsy, say a year after diagnosis, shows that there's a bit more cancer in the prostate, we wouldn't expect a dramatic change over that time] if we see a real change, we can say well, it's changing slowly and steadily, we're not going to be able to just watch this for another ten years, we might as well treat it now and be done with it. The advantage of that approach, watching it for a while, is we can then further separate out the men whose cancers are proven to be well

behaved by observation from the ones who are not. The ones who are not at least, when they are being treated, they are being treated for good reason and not by speculation. That's called active surveillance and it's gaining a lot of popularity over the last few years because it actually works quite well.

The other thing we can do is, we can look at the prostate gland itself in more detail. As I said, we've got a couple of biopsies from the prostate, we've got an ultrasound, that's about the limit of the information we have regarding the cancer in the prostate gland. So, we can look at it in more detail now with a different kind of scanning called MRI or we can actually take the prostate out and examine it in detail. That gives us the most detailed information. However, as I've already said, not every man actually needs to have their prostate removed, so taking it out just to examine it is not necessarily a good idea. It would be much better if we could get that information without taking it out, which is where we come back to that MRI scan. In a lot of men, we do make a decision to remove the prostate gland for other reasons, not just to find out what's in it and we do get additional information from that procedure. We can now act upon that information by finding out the cancer is more advanced, a higher grade than we initially suspected, we could then immediately bring in a second treatment, like radiation therapy and deal with any residual problems remaining. This is what we are doing at the moment, we're making better use of the information that we already have.

I'd now like to focus a little bit on Radiation Therapy, because that's basically what I do for a living. What we are most interested in with radiotherapy is precision and accuracy. We do a catscan, to locate the exact position of the prostate. We can identify, within a few millimeters in space, where that prostate is sitting. We have a high level of precision in identifying our target. The next thing we need is some precision in covering that target with radiation, that's what we have with our different radiotherapy planning techniques. Back when I started, we just bathed the pelvis with radiation - the prostate was in there, so we hit it but we also did a lot unnecessary damage. In the 1990s, when new computers became available, we started using three dimensional conformal radiation therapy, which conformed the radiation much better to the prostate but it still wasn't perfect. Then in the last seven or eight years we've had Intensity Modulated Radiation therapy (IMRT) which allows us to confine the radiation very precisely to the prostate gland. In the last year, we've come up with something even newer, which is really an improved IMRT called VMAT, where we can now start focussing the radiation into parts of the prostate. This is the precision in covering the target.

The other thing we need is accuracy. How do we achieve this accuracy? For the last 15 years, it's been a very simple technique. We've been sticking three small gold seeds into the prostate gland. Done exactly the same way as we do a biopsy, three needles, three seeds and they are there forever. They are very easy to see on a plain X-ray and allow us

to see the exact position of the prostate. It was particularly useful in the days when we just had these fuzzy X-ray pictures and is still, today, the most accurate way of directing radiation to the prostate. We have improved in some fashion and we now have a technology called cone beam CT. It turns the radiation treatment unit into a catscan. Each day, before we start the treatment, we rotate the unit around the patient and it gives us a catscan of the pelvis. Because it's using treatment radiation rather than diagnostic radiation, the pictures are a little bit fuzzy and it is not as accurate as gold seeds but it has two big advantages over gold seeds. Number one, you don't have to have gold seeds, so you don't have to have a needle stuck in your prostate and it also saves a couple of weeks in planning because we don't have to book those gold seeds. It also shows us more than the prostate. Knowing where the prostate is is very important but we also need to know where the bladder and the rectum are, so that we can avoid them. When we can do a catscan each day, we have that information which we didn't have before with our gold seeds.

I've been talking about the prostate as being the target but it's not really the prostate that we want. It's the tumour that we're actually interested in but we call the prostate the target because we haven't had any better way of subdividing it into tumour and not tumour. However we may have a way doing that now and that's with an MRI scan. We use our brand new MRI scanner at the Princess Margaret Hospital. It's one of the strongest scanners of its type in the world and it uses magnetism rather than X-rays or sound waves to create images. Because it uses magnetism, it's not just looking at the anatomy, it's not just looking at the shape of the prostate, the shape of the tumour within the prostate, it can also identify differences in chemistry. It can not only see that a tumour is there because of its shape, it can see that a tumour is there because of the difference in chemistry in one aspect of the prostate gland. It can potentially identify very small tumours. This is all new investigational stuff, it's not quite ready for prime time yet but I suspect it will be in the next year or two. So, we now have a new target.

For the last forty years our target has been the prostate gland because we could never tell with our equipment where exactly the tumour was within the prostate. With this new MRI scan, the tumour shows up very clearly. How do we use this new information? We can take that VMAT radiotherapy and we can focus it on this tumour and, because we're only worrying about this small area of the tumour within the prostate, we can actually bring it up to a much higher dose of radiation than if we were treating the entire prostate gland. It is adding efficiency because we are giving the radiation to where it's actually needed and is adding efficacy because the small volume allows for a higher dose of radiation and greater probability of killing the cancer. We can do it with IMRT, we can also do it by sticking radioactive seeds directly into the tumour, using the MRI scanner to guide us. This is what we would call individualized treatment because this treatment plan would work for any one of a hundred men. This is a

situation where we are individualizing the treatment to the very specific situation that that man has and, at the same time, increasing the probability of tumour control by giving more radiation and decreasing the probability of side effects by keeping it away from the bladder and rectum better than we can now.

Another neat piece of gear is recently being introduced in Ontario in Ottawa and Hamilton, called a cyberknife. This is a robot arm, made by Toshiba and is exactly the same sort of arm that is used to build Toyotas. At the top of it is this miniaturized radiation treatment unit. It just delivers a pin point of radiation within the prostate, multiple times. The patient lies on the bed, the cyperknife is programmed to direct the radiation to specific points. So, there are three ways of doing it. We can use power VMAT, HDR Brachytherapy or we can use the cyberknife, all of which are pretty much doing the same thing but all raising the bar in terms of precision and accuracy. In summary, I think the days of one treatment fitting all are disappearing. We haven't quite got there yet but we can see on the horizon that, in the future, the goal is to be the tailoring of the treatment to the patient's individual circumstances. This will require very specific knowledge about each individual tumour, much higher degree of knowledge than we have at the present. We do have better precision than we have ever had before in terms of planning and delivering radiotherapy to prostate cancer. We can now start thinking the tumour itself within the prostate is the target, not the entire gland. Ultimately this should result in cancer control for even more men, without any worsening of side effects. That's sort of our vision of the future. Dr. Catton then turned the meeting over to 45 minutes of questions. The following are a few of the many that were asked. Come to the meetings and get your questions answered.

Questions

Q. *Can these machines detect the cancer inside the prostate?*

A. Yes, the detection machine gives us a full, three dimensional view of the prostate gland.

Q. *Are your MRI scanners open ones?*

A. The advantage of open magnets is it's less claustrophobic. About 20% of people are claustrophobic. We found that 20% of the people who had had MRIs refused to have a second one. An open magnet eliminates that problem. The disadvantage of an open magnet is that the magnets are further away from the body and the further away from the body you go, the fuzzier the images become. We've gone for precise imaging. Our magnets are close to the body so it is quite claustrophobic but it gives an incredibly sharp image.

Q. *As they as advanced here in Newmarket, as they are at Princess Margaret.*

A. Considering that everyone that works here in Newmarket was trained at PMH and that they hired us to set up the treatment units, I would have to say yes.

Q. *How many radiation treatments are necessary to cure prostate cancer?*

A. That is a very good question and we don't know the answer to that. It's not actually the number of treatments that matter, it's the total dose of radiation. We generally divide the total dose of radiation up into small bits because the smaller each dose of radiation each day, the less likelihood of side effects. At the moment we're giving 39 treatments. We're not curing 100% of the people, so that is probably not sufficient and with this new technology, we can probably add a few more treatments. Because the cure rate is already at 90%, in order to get to 92% we're going to have to add a lot more radiation and to get to 99% we're going to have to add a lot lot more. The reason we break the doses down to such small increments is to protect the bladder and the rectum. If we can protect the bladder and rectum with some fancy technique, we could in fact compress the treatment down dramatically.

Q. *Why is there so much controversy over PSA screening?*

A. They've been engaged in screening to some extent for the last 15 years and cancers have shrunk as a consequence. The argument has been that catching this little cancer at age 50 is no better than catching this little cancer which has grown big at age 75. Now, that only works if you've got one of these slow growing cancers, which admittedly, most men do. For the majority of men, the only thing that screening really does is add 20 years of potential illness to their life. If they're told at 50 they have a problem, rather than being told at 70 that they have a problem and it never really is a problem in their lifetime, for those individuals, screening is a disadvantage. Because it's making healthy people ill and subjecting them to treatment that they don't need. However, mixed up with all those men that don't need the treatment are men that actually benefit from it. They did a screening in Europe comparing men being screened and not being screened. They proved that the majority of men did not benefit from screening. In other words, you had to unnecessarily treat 48 men in order to benefit one. If you're the one man who benefits, you probably don't care about the other 48 but the other 48 might say "Why did I go through all that for nothing?" Screening is of value for a minority and we don't know which minority. There are two ways of approaching that problem. There's the Swedish way which says don't bother with it, just ignore it. Eight times out of ten they are right. Or, you make a concerted effort to find the cancer and then you try and figure out what we should do with it. Don't find the cancer and treat it. Find the cancer and then figure out how it's going to behave and then make an informed decision on how best to handle it. It may be that doing nothing but observing it for a period of time is the right way to go.

Q. *I had radiation therapy and I have been told I can't go through that again. Is that so?*

A. No, with this technique which are still developing, we've started using it in men who require retreatment. Yes we can retreat people with prostate cancer with radiation in specific

circumstances, with the right technology.

Q. *With your knowledge, experience and research, hypothetically, if you were a prostate cancer patient, which treatment would you prefer and why?*

A. Well, the first question would be surgery or radiation? I think that they are both excellent treatments. Either one is a perfect treatment. The main differences now with the improvements with both surgery and radiation, they both have very high cure rates, if you pick the right patients to treat but the side effects are different. With surgery, the advantage is it's over with pretty quickly, There's a short recovery period and you're back to normal. The other advantage is you have new information by examining the prostate under the microscope and you may learn something that you didn't know beforehand. The disadvantage of surgery is it involves cutting, which a lot of people don't particularly care for. Certainly if you are not in excellent health, surgery might have some problems associated with it in terms of complications. The side effects of surgery are mostly related to bladder control. Now, with radiation, the advantage is no cutting, so just about anyone who needs treatment can have radiation treatment but it's a very drawn out process at the moment. You don't have the advantage of the additional information you have from the surgery, so you have to wait two or three years to see what you've achieved because it takes that long for the PSA to get

to a low level and decide whether it's going to stay there or not. The main side effects associated with radiation is more in the bowel than the bladder. Both of them are not very good for preserving sexual function. If you decide that you are going to have your prostate cancer treated, you pretty much have to accept that you are going to lose some or all of your sexual function, which is another why this delayed treatment is actually considered favourable. So, to answer your question. If I was diagnosed with prostate cancer tomorrow, I would probably go for surgery. If I am diagnosed in ten years time, I am going to have radiation.

Q. *Do you think most urologists in Ontario have the same skill level that you do?*

A. Well, I am an oncologist and pretty much all I have done for the past 25 years is prostate cancer. I work in an academic centre so I sort of have prostate cancer on the brain. Urologists are, for the most part, generalists, they are not specialists. They look after men's health issues, of which prostate cancer is one. That is not to say that there are not some very good urologists. I think that anyone who is living in the Toronto area, who is diagnosed with prostate cancer, has the option of going to one of the academic centres, either PMH or Odette, for a second opinion. That applies to seeing another urologist, or to seeing a radiation oncologist. I think that in most situations that's a reasonable thing to do.

The Link Between High Cholesterol and Prostate Cancer

Recent research has reported that men with lower cholesterol are less likely than those with higher levels to develop high-grade prostate cancer — an aggressive form of the disease with a poorer prognosis. In this excerpt from a recent *Prostate Bulletin*, Dr. Mark A. Moyad of the University of Michigan Medical Center discusses the link between lower cholesterol and overall prostate health.

Death due to prostate cancer has dropped over the past decade, owing partly to early detection with PSA screening and improved surgical and radiation techniques. Even so, I don't think we are giving enough credit to the aggressive approach that has been taken toward heart disease over the past two decades. The use of statin medications has played a big role here.

“Normal range” cholesterol is defined as less than 200 mg/dl (milligrams per deciliter of blood). In a prospective study of more than 5,000 U.S. men, Elizabeth Platz, Sc.D., M.P.H., co-director of the cancer prevention and control program at the Johns Hopkins Kimmel Cancer Center, reported that having lower levels of cholesterol may cut a man's risk of aggressive cancer — Gleason score 8-10 — by nearly 60 percent.

For the study, published in the journal *Cancer Epidemiology, Biomarkers & Prevention*, Dr. Platz, members of the Southwest Oncology Group and other collaborators analyzed data from 5,586 men age 55 and older enrolled in the Prostate Cancer Prevention Trial from 1993 to 1996. More than 1,200 men in the study were diagnosed with prostate cancer during that study period.

In Dr. Platz's study, cholesterol levels had no significant effect on the entire spectrum of prostate cancer incidence — only on those that were high-grade. Those men with cholesterol levels lower than 200 mg/dl had a 59 percent lower risk of developing high grade prostate cancers, which tend to grow and spread rapidly.

What's Good for Your Heart Is Good for Your Prostate

In pursuing effective prostate cancer prevention strategies, you can make lifestyle and dietary changes gradually, and it's never too late to start. Just making them is the important thing. In this Health Alert from the *Prostate Bulletin*, Dr. Mark A. Moyad of the University of Michigan Medical Center answers two important questions about achieving prostate health.

Q. What can be done to maintain optimal prostate health?

The #1 killer of men is not prostate cancer — it's heart disease. The good news is that research has shown that whatever is good for the health of your heart is also good for your prostate.

Since heart disease is the undisputed #1 cause of death in men diagnosed with prostate cancer, when you take measures to protect your heart you may reap a double reward, countering the leading cause of early death while protecting your prostate, as well. If you can take your cardiac risk to zero, you will also be reducing your risk of prostate cancer to the lowest level possible.

Q. Can lifestyle modifications overcome genetics when it comes to prostate cancer?

I think they can. For me, the greatest lifestyle research study has been the Interheart study, which was conducted by the World health association in 52 countries. Information from the study was first published in the medical journal, the *Lancet*.

The researchers reported that a series of factors — regardless of what country the person lived in — either caused a 90 to 95 percent reduction in heart attacks, or else explained 95 percent of the cardiac events they noted.

Here are the nine factors that the Interheart researchers say can help prevent heart attacks:

- 1 not smoking
- 2 low cholesterol (LDL less than 100 mg/dl)
- 3 good blood pressure (lower than 140 mmHg)
- 4 normal blood glucose
- 5 normal waist circumference: 36 inches or smaller
- 6 no depression
- 7 fruit and vegetable consumption with no limit

- 8 alcohol, in moderation; no more than two drinks a day
- 9 30 minutes of aerobic exercise daily

To this list, I add one more factor: lifting weights several times a week to build muscle, burn body fat, and strengthen bone. I recommend this to all my patients.

Red Wine and Your Health

A reader asks: *Should I drink red wine for its health benefits?* Here's what the research suggests.

Johns Hopkins replies: A growing body of evidence finds that there are some health benefits to drinking alcohol in moderation, and red wine, in particular, has been touted to confer some cardiovascular advantages.

Moderate alcohol consumption in general is thought to offer a significant degree of protection from cardiovascular disease (including heart attacks and strokes) by raising HDL ("good") cholesterol, reducing the formation of blood clots and helping prevent damage to arteries by high levels of LDL ("bad") cholesterol.

However, although some tentative research in mice has suggested that the antioxidants in red wine — namely, flavonoids and resveratrol — provide protection against cardiovascular disease, many studies in humans have shown no differences between red and white wine or between red or white wine and any other alcoholic beverages in their protection against cardiovascular disease.

Also keep in mind that even moderate amounts of alcohol aren't right for everyone. People who have a history of substance abuse or breast cancer or are lifelong abstainers are advised to avoid even moderate alcohol intake, which is no more than two drinks per day for men and one drink per day for women. A drink is defined as 12 oz. of beer, 5 oz. of wine or 1.5 oz. of liquor.