

PCa: Understanding Your Pathology Report

When your prostate was biopsied, the samples taken were studied under the microscope by a specialized doctor with many years of training called a *pathologist*. The pathologist sends your doctor a report that gives a diagnosis for each sample taken. Information in this report will be used to help manage your care. The questions and answers that follow are meant to help you understand medical language you might find in the pathology report from the biopsy.

What does it mean if my biopsy report mentions the word **core**?

The most common type of prostate biopsy is a core needle biopsy. For this procedure, the doctor inserts a thin, hollow needle into the prostate gland. When the needle is pulled out it removes a small cylinder of prostate tissue called a core. This is often repeated several times to sample different areas of the prostate.

Your pathology report will list each core separately by a number (or letter)

assigned to it by the pathologist, with each core (biopsy sample) having its own diagnosis. If cancer or some other problem is found, it is often not in every core, so you need to look at the diagnoses for all of the cores to know what is going on with you.

What is **adenocarcinoma**?

Adenocarcinoma is the type of cancer that develops in gland cells. It is the most common type of cancer found in the prostate gland.

(Continued on page 2)

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Thanks!

Next meeting: December 12, 2013
Christmas Potluck Party
Featuring The Campfire Junkies
Entertainment from 7:30 - 8:30 p.m.
Location: Main Floor Auditorium
Seven Oaks General Hospital
Leila and McPhillips
Time: 7 to 9 p.m.



The Manitoba Prostate Cancer Support Group does not recommend treatment modalities, medications, or physicians.

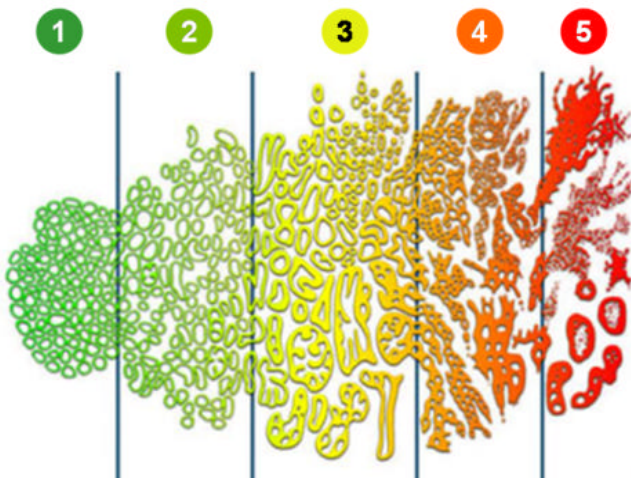
Thought of The Day
At a car dealership: The best way to get back on your feet ?
Miss a car payment.

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What is the Gleason grade or Gleason score? What do the numbers in the Gleason score mean, for example 3+4=7 or 3+3=6?

Pathologists grade prostate cancers using numbers from 1 to 5 based on how much the cells in the cancerous tissue look like normal prostate tissue under the microscope. This is called the *Gleason system*. Grades 1 and 2 are not often used for biopsies - most biopsy samples are grade 3 or higher.

- If the cancerous tissue looks much like normal prostate tissue, a grade of 1 is assigned.
- If the cancer cells and their growth patterns look very abnormal, a grade of 5 is assigned.
- Grades 2 through 4 have features in between these extremes.



Since prostate cancers often have areas with different grades, a grade is assigned to the 2 areas that make up most of the cancer. These 2 grades are added to yield the Gleason score (also called the *Gleason sum*). The first number assigned is the grade that is most common in the tumor. For example, if the Gleason score is written as 3+4=7, it means most of the tumor is grade 3 and less is grade 4

and they are added for a Gleason score of 7. The highest a Gleason score can be is 10.

Other ways that this Gleason score may be listed in your report are Gleason 7/10, Gleason 7 (3+4), or combined Gleason grade of 7.

Although most often the Gleason score is based on the 2 areas that make up most of the cancer, there are some exceptions when on a core sample there is either a lot of high-grade cancer or there are 3 grades including high-grade cancer. In these cases, the Gleason score is modified to reflect the aggressive nature of the cancer.

The higher the Gleason score, the more likely it is that your cancer will grow and spread quickly.

What does it mean to have a Gleason score of 6 or 7 or 8-10?

The lowest Gleason score of a cancer found on a prostate biopsy is 6. These cancers may be called well-differentiated or low-grade and are likely to be less aggressive – they tend to grow and spread slowly.

Cancers with Gleason scores of 8 to 10 may be called poorly differentiated or high grade. These cancers tend to be aggressive, meaning they are likely to grow and spread more quickly.

Cancers with a Gleason score of 7 may be called moderately differentiated or intermediate grade. The rate at which they grow and spread tends to be in between the other 2.

What does it mean when there are different core samples with different Gleason scores?

Cores may be samples from different areas of the same tumor or different tumors in the prostate. Because the

grade may vary within the same tumor or between different tumors, different samples (cores) taken from your prostate may have different Gleason scores. Typically, the highest (largest number) Gleason score will be the one used by your doctor for predicting your prognosis and deciding treatment.

Can the Gleason score on my biopsy really tell what the cancer grade is in the entire prostate?

Because prostate biopsies are tissue samples from different areas of the prostate, the Gleason score on biopsy usually reflects your cancer's true grade. However, in about 20% of cases the biopsy grade is lower than the true grade because the biopsy misses a higher grade (more aggressive) area of the cancer. It can work the other way, too, with the true grade of the tumor being lower than what is seen on the biopsy.

How important is the Gleason score?

The Gleason score is very important in predicting the behavior of a prostate cancer. Still, other factors are also important, such as

- The PSA level,
- Findings on rectal exam,
- How much of each core is made up of cancer,
- The number of cores that contain cancer,
- Whether cancer was found in both sides of the prostate, and
- Whether the cancer has spread outside the prostate.

What does it mean if my biopsy mentions that there is perineural invasion?

Perineural invasion means that cancer cells were seen surrounding or tracking along a nerve fiber within the

(Continued on page 3)

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prostate. When this is found on a biopsy, it means that there is a higher chance that the cancer has spread outside the prostate. Still, perineural invasion doesn't mean that the cancer has spread, and other factors, such as the Gleason score and amount of cancer in the cores are more important. In some cases, finding perineural invasion may affect treatment, so if your report mentions perineural invasion, you should discuss it with your doctor.

What does it mean if, in addition to cancer, my biopsy report also says high-grade prostatic intraepithelial neoplasia or high-grade PIN?

High-grade prostatic intraepithelial neoplasia (or high-grade PIN) is a pre-cancer of the prostate. It is not important in someone who already has cancer. In this case, the words high-grade refer to prostatic intraepithelial neoplasia and not the cancer, so it has nothing to do with the Gleason score or how aggressive your cancer is.

What does it mean if in addition to cancer my biopsy report also says acute inflammation (acute prostatitis)

or chronic inflammation (chronic prostatitis)?

Inflammation of the prostate is called *prostatitis*. Most cases of prostatitis reported on biopsy are not caused by infection and do not need to be treated. In some cases, inflammation may increase your PSA level, but it is not linked to prostate cancer. The finding of prostatitis on a biopsy of someone with cancer does not affect their prognosis or the way the cancer is treated.

What does it mean if my biopsy report also says atrophy or adenosis or atypical adenomatous hyperplasia or seminal vesicle?

All of these are terms for things the pathologist sees under the microscope that that are benign (not cancer), but that sometimes can look like cancer.

Atrophy is a term used to describe shrinkage of prostate tissue (when it is seen under the microscope). When it affects the entire prostate gland it is called *diffuse atrophy*. This is most often caused by hormones or radiation therapy to the prostate. When atrophy only affects certain areas of the prostate, it is called *focal*. Focal atrophy can

sometimes look like prostate cancer under the microscope.

Atypical adenomatous hyperplasia (which is sometimes called *adenosis*) is another benign condition that can sometimes be seen on a prostate biopsy.

The seminal vesicles are glands that lie just behind the prostate. Sometimes part of a seminal vesicle is sampled during a biopsy. This is not a cause for concern.

What does it mean if, in addition to cancer, my biopsy report also says atypical glands or atypical small acinar proliferation (ASAP) or glandular atypia or atypical glandular proliferation?

All these terms mean that the pathologist saw something under the microscope that is worrisome for cancer, but he or she is not 100% sure that cancer is present. Finding any of these is not important if cancer is also present.

Source: Canadian Cancer Society

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Long-Term Impact Of Positive Surgical Margins On Biochemical Recurrence After Radical Prostatectomy: Ten Years Of Follow-Up

Source: *Urotoday.com*
September 2013

Objective: Positive surgical margins (PSMs) in men undergoing radical prostatectomy (RP) for prostate cancer are associated with an increased risk of biochemical recurrence.

This study evaluated the long-term (>10 year) impact of PSMs on biochemical recurrence after RP in adjuvant treatment-naïve pT2-pT4 N0 men and determined predictors of prostate-specific antigen (PSA) failure.

Results: Biochemical recurrence 10 years after radical prostatectomy was 33.5% for patients regardless of the margin status. The 10-year biochemical recurrence-free survival (RFS) was 73% in men with negative margins compared to 49% in the case of positive surgical margins. In multivariate analysis, margin status was a significantly predictive for PSA failure.



After stratification by pathological stage, margin status was significantly predictive for biochemical recurrence-free survival in pT2 and pT3a, whereas the impact of

positive surgical margins did not reach significance in pT3b.

Conclusions: After 10-year follow-up, positive surgical margins remain an independent risk factor of biochemical recurrence-free survival after RP with less relevant impact in pT3b disease. Randomized prospective trials are needed to determine the place of adjuvant versus delayed radiotherapy.

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A Treatment Choice: Active Surveillance

Source: urologyhealth.org June 2013

Active surveillance allows delayed primary treatment if there is biochemical or histologic evidence of cancer progression.

- Active surveillance is being evaluated as a management strategy in younger patients with low-volume, low- or intermediate-grade (up to Gleason score $3 + 4 = 7$) tumors to avoid or to delay treatment that might not be immediately necessary.
- Monitoring of the patient for progression for either watchful waiting or active surveillance patients are usually observed with semiannual PSA determinations, DRE, and annual biopsies.
- Intervention is recommended if Gleason pattern 4 or 5 is present, more than two biopsy cores are involved, or more than 50% of a biopsy core is involved.
- Progression is more likely in

patients who have cancer present on every biopsy procedure.

- The absence of cancer on repeated biopsy significantly decreases the likelihood of progression.
- Biopsy criteria used in active surveillance have been reported to be more accurate than PSA criteria in predicting progression.
- No study has found DRE or imaging studies to independently predict progression.
- In most studies of active surveillance, approximately 25% to 50% of patients, depending on their individual risk factors, develop objective evidence of tumor progression within 5 years.
- Presently, no tumor marker can identify indolent tumors with certainty.
- Additional clinical and laboratory research are needed to define the parameters for safe use of active surveillance in younger men, including the appropriate

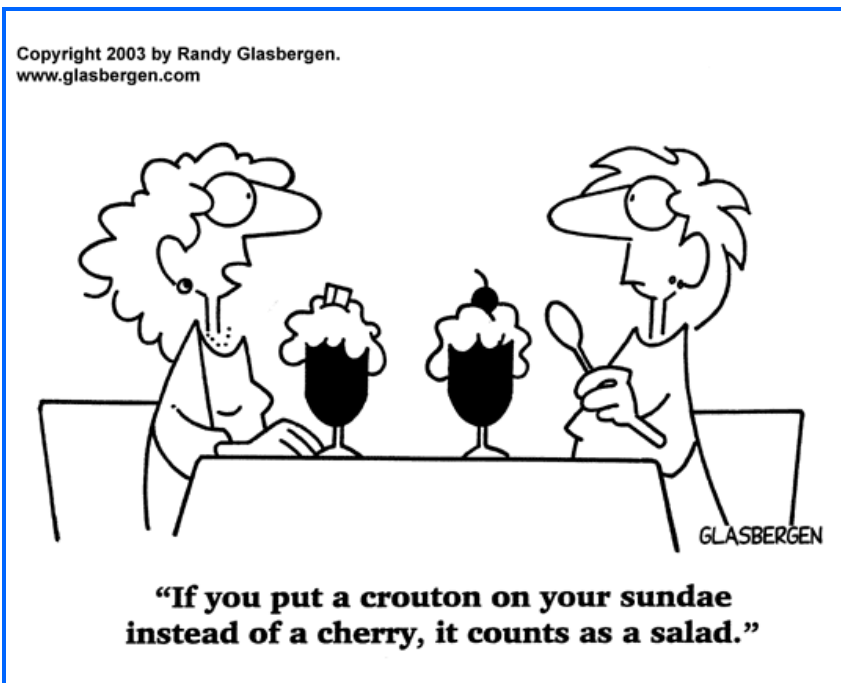
selection criteria, follow-up procedures, and trigger points for intervention.

- All prostate cancer patients are at risk for progression.
- If the PSA level is rising, the DRE suggests tumor growth, or surveillance biopsy specimens show evidence of increased involvement by cancer, treatment should be instituted.
- Patients may change their minds about remaining on an active surveillance protocol; therefore the physician should review management options on follow-up visits.
- In discussing treatment for prostate cancer, it is important to consider patient factors such as age and general performance status as well as tumor factors such as Gleason score, initial serum PSA, and estimated clinical volumes/ stage of the tumor.
- If a patient has less than a 50 percent chance of surviving 10 years, it is difficult to measure the positive effect of treatment.
- The side effects of different therapies also have to be considered. It is optimal when patients come to a treatment decision based on consultation and input from both surgical and radiation oncology services.

The current treatment paradigm

- Multiple guidelines endorse active surveillance for low-risk prostate cancer, but concerns regarding biopsy under-sampling and under-staging have limited its acceptance.

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Two Fat Swaps That Stop Cancer

Replacing animal fats and carbs with vegetable fats could extend your life

By Drs. Oz & Roizen, *The Province*

A new headline-grabbing report reveals the amazing power of two crucial "fat swaps" to protect guys against fatal prostate cancer. We think this way of eating could slash breast cancer risk, too.

Just make two changes: Choose vegetable-based fats - extra virgin olive and canola oil, nuts and seeds, avocado - over animal fats.

Replace some of the carbs on your plate with vegetable fats, too.

That's right. This new report - impressive because it followed nearly 5,000 guys with prostate cancer for more than eight years - found that men who cut their daily carbs from sweets and starches such as bread, pasta and crackers by just 10 per cent and replaced those calories with healthy vegetable-based fats slashed their risk for lethal prostate cancer by 29 per cent. They also lowered their overall risk for fatal health problems 26 per cent.

Guys who went for veggie fats instead of fatty meats, butter, ice cream, cheese or processed foods got a big bonus. Those who ate the most vegetable fat daily had a 55 per cent lower risk for aggressive prostate cancer than those who ate the least.

But those who ate the most animal fats and trans fats (the scary fats found in processed foods) had a 35 per cent higher risk for aggressive cancers than those who ate the least.

That's big news for the 2.5 million men living with a diagnosis of prostate cancer, and the one in six who will receive a diagnosis during their lifetime.

We suspect that the same good eating

plan can help women battle breast cancer, too, because research has consistently shown that the same healthy steps protect against both of these hormone-driven cancers.

Why does cutting back on carbs and animal fats keep a lid on cancer? Putting fewer refined carbs into your digestive system means lower blood sugar and lower levels of insulin, a hormone that at high levels can spur the growth of cancer cells.

Refined carbs, trans fats and saturated fats also increase levels of bodywide inflammation, which can increase your risk for cancer and spur cancer on. In contrast, veggie fats cool inflammation and deliver a big dose of disease-fighting nutrients.

Now, don't crunch a whole bowlful of nuts or drench your dinner with olive oil just yet. All fats are high in calories (130 in a tablespoon of oil, nearly 200 in a handful of walnuts). That's why swapping is so important - keep calories steady while you amp up the good stuff.

For example, adding just one tablespoon of oil-based dressing a day lowered risk for fatal cancer 29 per cent. Adding one ounce of nuts (14 walnut halves or 22 almonds, for example) cuts the risk for lethal cancer 18 per cent and lowers risk for an early death from any cause by 11 per cent.

Here are some great ways to swap in vegetable-based fats at mealtime:

BREAKFAST

Go nuts first thing in the morning.

Instead of two pieces of toast, top one piece of whole-grain toast with nut butter. Instead of low-fibre cereal, switch to plain, non-fat yogurt with chopped walnuts, ground flax or chia seeds and sweeten it with berries, peaches or melon chunks. If you already eat a healthy, wholegrain cereal like steel-cut oatmeal, add nuts, nut butter or even avocado to your favourite smoothie.

LUNCH

Upgrade your sandwich. Instead of cheese, tuck avocado slices into your sandwich. Opt for peanut butter or almond butter instead of lunch meat. Use one piece of bread instead of two, and spend the saved calories on an extra tablespoon of peanut butter or extra avocado.

DINNER

Skip a starch. Replace a starch (such as white potato, white rice or pasta or bread) with sliced avocado (spritzed with lemon juice) or with a small green salad. Top it off with a drizzle of olive oil and a sprinkle of walnuts, ground flax or chia seeds. Bread chicken or fish with toasted, finely chopped nuts (or with cornmeal mixed with ground flaxseed) instead of flour. Then bake.

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Something New! Canada Helps

The Manitoba Prostate Cancer Support Group has signed up with Canada Helps in order to make credit card donations available. Those wishing to donate with their credit card can go to our website at www.manpros.org. Click on the Donate tab and then click on the Donate Now icon. It's easy to follow the instructions to make your donation to our Support Group.

Your tax receipt will be issued by Canada Helps. We appreciate the kindness of your donation.

Cryotherapy for PCa Treatment

Source: Web MD

Cryotherapy uses extremely cold temperatures to freeze and destroy cancer tissue in the prostate. There are few long-term studies that focus on cryotherapy as a treatment for prostate cancer.

Some experts think cryotherapy is an option for treating recurrent prostate cancer, especially if initial radiation therapy did not kill enough cancer cells.

How is cryotherapy done?

With cryotherapy, an ultra-thin metal probe or needle is inserted into the prostate gland. This is done through an incision that lies between the anus and scrotum. To protect the urethra from the procedure's icy temperatures, a warm saline solution flows through a catheter.

The surgeon uses visual information produced by ultrasound as a guide during the process. A freezing liquid, such as liquid nitrogen or more commonly, argon gas, is infused through the probe into the prostate gland. The intense cold freezes the prostate and destroys any cancerous tissue it contains. Using the images from the ultrasound to identify the cancer tissue, the surgeon can limit damage to normal prostate tissue.

How does cryotherapy destroy prostate cancer?

Any living tissue -- healthy or unhealthy -- cannot tolerate extreme cold. Infusing nitrogen or argon gas

into the prostate gland rapidly extracts heat from the gland. As heat is drawn out, there is an instantaneous swell of ice crystals or ice balls. This results in the rupture of cell membranes. That's followed by tissue damage and, ultimately, cell death.

After the cancer cells are destroyed, white blood cells clean up the dead cells and tissue. Some studies show that during this process, the immune system strikes out and attacks cancer cells that still remain.

Are there advantages to using cryotherapy for prostate cancer?

There are few long-term studies on cryotherapy and prostate cancer. Some experts believe, though, that cryotherapy offers several advantages over surgery and radiation. Those advantages may be particularly noticeable in early stage prostate cancer. For instance, cryotherapy is a less invasive procedure. It can be done using an epidural or spinal instead of a general anesthesia. This may benefit older men with prostate cancer. It can also benefit men who have other conditions such as diabetes, heart disease, or lung disease.

Other advantages with cryotherapy include:

- => Less blood loss
- => Shorter hospital stay (usually one or two nights)
- => Shorter recovery period
- => Much less swelling and pain than with standard surgery for prostate cancer

If needed, cryotherapy can be followed

with other conventional therapies, such as radiation therapy or surgery.

One recent study followed men with prostate cancer for a period of 10 years. In that study, researchers concluded that cryotherapy might be as effective as radiation and other common treatments for prostate cancer. Cryotherapy, though, wasn't directly tested against those more established treatments.

What are the risks of cryotherapy for prostate cancer treatment?

Whether cryotherapy is effective in eliminating prostate cancer hasn't been proven. Experts say that sometimes the freezing liquid fails to kill all of the cancer cells. As a result, there is a chance prostate cancer will come back.

Also, the potential side effects of cryotherapy for prostate cancer are undesirable for some men. These side effects may include:

- => Injury to the urethra and bladder
- => Serious infections as a result of the injury
- => Obstruction or blockage of the urethra

In addition, the risks of cryotherapy are similar to other prostate cancer treatments. They include:

- => Impotence
- => Incontinence
- => Recurrence of prostate cancer

Without long-term studies, the jury is still out on who should consider cryotherapy to treat prostate cancer. Some experts believe cryotherapy may be most effective when a man has recurring prostate cancer that's limited only to the prostate gland.

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Cryotherapy

Fish Oils May Raise Prostate Cancer Risks, Study Confirms

Maggie Fox, Senior Writer, NBC News (July 10, 2013)

Editors Note: I published an article in our October newsletter regarding "Omega 3 and Prostate Cancer" – written by Dr. Mark A. Moyad from the University of Michigan Medical Center.

The article below was sent to me from a reader of our newsletter so I am publishing it to let you read "both sides of the story" and to encourage you to discuss the topic with your doctor.

Everyone knows that fish oil is good for you, right? It's a rich source of omega-3 fatty acids, which are marketed to reduce the risk of just about everything from heart disease to Alzheimer's.

But a startling study shows men who have the highest levels of these compounds – the kinds found in fish but not in vegetable sources - have a higher risk of prostate cancer. Men with the very highest levels had a 71 percent higher risk of high-grade prostate cancer – the kind most likely to spread and kill, they report in the *Journal of the National Cancer Institute*.

It might be a sign that popping a pill is not only possibly a waste of money – it might be downright dangerous. And eating fish too often might be, also.

"These fish oil supplements in which some men getting mega, mega doses...in our opinion that is probably a little bit dangerous," said Theodore Brasky of Ohio State University Medical Center, who worked on the study with a team from the Fred Hutchinson Cancer Research Center in Seattle.

The same team published a study in 2011 that showed men with the

highest levels of one omega-3 fatty acid called docosahexaenoic acid, DHA for short, had double the risk of high-grade prostate cancer. Other studies have had similar findings.

To try to confirm their work, the team looked at data from a different prostate cancer trial called SELECT, for Selenium and Vitamin E Cancer Prevention Trial. That study showed 17 more cases of prostate cancer among men who took vitamin E alone for about five years compared to men taking placebos.

The effect was even stronger when they looked at omega-3 fatty acids – specifically, the kinds found in fish oil as compared to those found in vegetable oils.

Brasky's team looked at 834 of the men in the SELECT trial who developed prostate cancer, and 1,393 randomly chosen others from the trial who didn't have cancer. They divided the men into four groups based on their blood levels of three omega-3 fatty acids – EPA, DPA and DHA.

Those with the highest blood levels had a 71 percent higher risk of high-grade prostate cancer, compared to those with the lowest levels. Overall, their risk of any kind of prostate cancer was 44 percent higher.

The difference between the group with the highest levels of omega-3s in their blood and those with the lowest works out to about what someone would get by eating salmon twice a week, the researchers said.

Fatty acids found in vegetable oils, flaxseeds and other vegetable sources – including alpha-linolenic acid (ALA) – did not affect prostate cancer risk, the researchers found.

"A 70 percent increased risk in high-

grade prostate cancer, given it's the No. 1 cancer in men and fish is a commonly consumed thing and is thought to be a healthy food, I think it'd be a concern for people," Brasky said in a telephone interview.

"We've shown once again that use of nutritional supplements may be harmful," said Alan Kristal of Fred Hutchinson, who also worked on the study.

Brasky, who says he still eats fish "but in moderation", says the study cannot answer the question of how fish oil might cause cancer. They took into account other factors that might be associated with eating fish and Brasky notes that mercury, which can be found in fatty fish, doesn't cause prostate cancer.

The study also doesn't say anything about the effects of fish oil on men who already have cancer. "This study is not about men with prostate cancer," Brasky said, noting that some studies have suggested fish oil might be beneficial in men who already have cancer.

Men might be at a loss for what to do, as omega-3 fatty acids were also believed to lower the risk of heart disease, which is far more common than prostate cancer. The American Heart Association recommends that people with heart disease eat fish twice a week and people with heart disease might need fish oil capsules.

But the researchers point out that recent studies have shown taking extra omega-3 has little effect on heart disease – including a study published in the *New England Journal of Medicine* in May.



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The Manitoba Prostate Cancer Support Group has been providing services for 20 years:

Newsletter – Website - Monthly Meetings - Hospital visits - Presentations

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Credit card donations can be made by going to our website at www.manpros.org and clicking on the donate tab. Canada Helps will issue a tax receipt.

Thanks to MANITOBA COMMUNITY SERVICES COUNCIL

The Board of the Manitoba Prostate Cancer Support Group would like to thank the MCSC for giving us the opportunity to participate in the bingo fund raiser at the Regent Casino.

Established in 1984, Manitoba Community Services Council Inc. allocates funds and/or bingo events to non profit, volunteer community service, and health-related organizations in Manitoba.

Our Board wishes to acknowledge and extend our sincere appreciation for their donation and assistance with the work we do in the community.



Email - manpros@mts.net

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Help us lower our costs :

Receive this newsletter by email ~ Please notify us and we'll make the changes. Thank-you

MEETINGS

December 12, 2013

Christmas Potluck Party

Entertainment by the Campfire Junkies.

January 16, 2014

Jodi Hyman RN, BScN, CON(C)

Wake up: Cancer Related Fatigue.

February 20, 2014

Dr. Harvey Quon, Radiation Oncologist

Intimate Fire-side chat on radiation Options and Fractionation in Winnipeg.

All meetings are held at
Seven Oaks General Hospital Auditorium
7-9 p.m.
Everyone welcome

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