

# Prostate Examiner Spring Newsletter

Visit us at [www.prostatecancersupporttbay.org](http://www.prostatecancersupporttbay.org)



Prostate  
Cancer  
Support  
Thunder bay

**Looking for Support**  
**Local men available to talk to you**

Gary Allen 621-0552

Grant Arnold 807 355 8235 or  
519-584-5125

Marc Breton 628-9944  
(en francais)

Bill Everitt 767-5768

David Everitt 628-5287

Marcel Girouard 705-362-8154  
(en francais)

Bill Horde 767-1490

Ed Long 628-6915

Milton Marion 475-0760

Dez Stolz 577-9515

Keith Moore - 632 6055

**Women available to talk to you**

Beth Long 629-4774

Carmen Marion 475-0760

Lise Pollard 623-3102(en français)

**Northwestern Ontario Region**

**Atikokan**

Ron Speck 807-597-2219

**Dryden**

**need a contact**

**Fort Francis**

**need a contact**

**Hearst**

Marcel Girouard 705-362-8154  
(en français)

**Kenora**

**need a contact**

**Terrace Bay/ Schreiber**

Mike Regis 807 825 9696

**Geraldton**

Ron Adams 807 854 1476



Don't despair  
Spring is in the air  
(Soon I hope)

Email us at  
[info@prostatecancersupporttbay.org](mailto:info@prostatecancersupporttbay.org)

## Protein NSD2 found to drive early prostate cancer development

By University of Michigan

Researchers at the University of Michigan Health Rogel Cancer Center have uncovered a key reason that a typically normal protein goes awry and fuels cancer.

They found that the protein NSD2 alters the function of the androgen receptor, an important regulator of normal prostate development. When an androgen receptor binds with NSD2, it causes rapid cell division and growth, leading to prostate cancer. The study, published in Nature Genetics, may suggest a new way to therapeutically target prostate cancer. The findings illuminate a phenomenon not previously understood. The androgen receptor's normal function is to define the development of the prostate. It tells the cells to stop growing and maintain a normal prostate. But in cancer, the androgen receptor does the opposite: It tells the cells to continue growing and drive cancer development.

"Our study is one of the first molecular explanations for this functional duality of the androgen receptor," said study first author Abhijit Parolia, Ph.D., Rogel fellow and assistant professor of pathology at Michigan Medicine. "NSD2 is a cancer specific collaborator of the androgen receptor that essentially rewires its activity to support prostate cancer development." Researchers started with a CRISPR screening to look for co-factors involved in the androgen receptor and prostate cancer. They scoured the enhanceosome, a complex of multiple proteins, including transcription factors and other epigenetic factors, that assemble on the DNA at specific sites to drive the expression of genes. They contrasted this with what's called the neo-enhanceosome. It's an analogous machinery, but cancer-causing transcription factors find their way in, reorganize the careful assembly and drive expression of cancer-causing programs.

The androgen receptor typically sits along a specific line of sites within DNA. When NSD2 is present, it rearranges where the androgen receptor "enhanceosome" sits on the DNA, setting it next to sites occupied by known cancer-causing genes and drivers. "This is the machinery around the genes we know are involved in prostate cancer development, including androgen receptors, ERG and FOXA1. They all use this machinery to regulate oncogenic expression. We're now working to indirectly target the genes of interest by affecting these epigenetic components like NSD2," said study co-senior author Arul M. Chinnaiyan, M.D., Ph.D., director of the Michigan Center for Translational Pathology and S.P. Hicks Professor of Pathology at Michigan Medicine. Researchers found that NSD2 is expressed in prostate cancer cells, but not in normal prostate cells. NSD2 was previously known to be involved in metastatic prostate cancer. This is the first study to show that it is fundamental to the earliest stage of prostate cancer development. The team used multiple methods to knock down or halt NSD2 expression in prostate cancer cells, and found that doing so returns the cells to a more normal state, slowing the growth and spread of the cancerous cells but not eliminating the cancer. A related protein called NSD1 works along with NSD2, they found. A compound that degrades both NSD1 and NSD2 successfully destroyed prostate cancer cell lines. The degrader targeted the cancer cells specifically without affecting normal cells. More work is needed to refine the degrader, as the initial version could not be translated to a mouse model. "By degrading NSD1 and NSD2, we can more directly target cancer and avoid the normal tissue," Chinnaiyan said. "Our study suggests if we're able to develop NSD1/2-targeting agents, they could potentially be combined with FDA-approved androgen receptor antagonists and have a synergist effect in terms of treatment."

A compound that degrades both NSD1 and NSD2 successfully destroyed prostate cancer cell lines. The degrader targeted the cancer cells specifically without affecting normal cells. More work is needed to refine the degrader, as the initial version could not be translated to a mouse model.

"By degrading NSD1 and NSD2, we can more directly target cancer and avoid the normal tissue," Chinnaiyan said. "Our study suggests if we're able to develop NSD1/2-targeting agents, they could potentially be combined with FDA-approved androgen receptor antagonists and have a synergist effect in terms of treatment."

More information: NSD2 is a requisite subunit of the AR/FOXA1 neo-enhanceosome in promoting prostate tumorigenesis, Nature Genetics (2024). DOI: [10.1038/s41588-024-01893-6](https://doi.org/10.1038/s41588-024-01893-6) , [www.nature.com/articles/s41588-024-01893-6](https://www.nature.com/articles/s41588-024-01893-6)

Journal information: [Nature Genetics](#)

# Recent studies underscore the importance of diet for the prevention of cancer

By Priyanjana Pramanik MSc

Sept 2 2024

Reviewed by Lily Romsey LLM

In a recent review article published in *Nutrients*, researchers summarized the latest evidence on diet and its role in preventing cancer, aiming to update the American Cancer Society (ACS) guidelines. Their findings indicate that dietary patterns like Mediterranean and vegetarian/pescetarian diets, along with certain nutrient intakes, can reduce cancer risk. In contrast, factors such as excessive fasting and high iron intake may increase it.

## Dietary patterns and cancer risk

Research suggests that time-restricted eating, particularly involving prolonged nighttime fasting and early breakfast, might lower the risk of prostate cancer. This approach to eating could play a role in preventing cancer, though more studies are needed to understand its benefits fully.

In some studies, the Mediterranean diet, known for its emphasis on fruits, vegetables, fish, and olive oil, was linked to a lower risk of lung and breast cancer.

However, the diet's impact on cancer-related compounds like trimethylamine N-oxide (TMAO) remains unclear, indicating a need for further research to clarify the mechanisms by which this diet influences cancer risk.

Individuals following vegetarian or pescetarian diets were found to have a lower overall cancer risk, particularly for colon cancer, compared to those who consume meat. This suggests that plant-based or fish-based diets might offer protective benefits against cancer.

Low-carbohydrate diets were linked to an increased risk of colorectal and lung cancer but a reduced risk of gastric cancer. This suggests that the impact of carbohydrate intake on cancer risk may vary depending on the cancer type.

High-quality diets, rich in nutrients and low in inflammatory foods, were associated with a reduced risk of certain cancers, such as squamous cell lung cancer.

Conversely, diets with proinflammatory properties were linked to an increased lung cancer risk, highlighting the importance of overall diet quality in cancer prevention.

## Specific Foods and Nutrients

Large-scale studies showed no clear link between dairy intake and breast cancer risk. This suggests that dairy products may not play a significant role in cancer prevention or causation, at least in the context of breast cancer.

No significant associations were found between coffee or tea consumption and prostate cancer risk.

Whether these beverages influence other types of cancer is still an open question, but current evidence suggests a neutral effect.

In terms of meat consumption, a large UK study found that a high intake of red and processed meat was associated with a higher risk of lung cancer, emphasizing the potential risks of consuming large amounts of these foods.

The same study also found that diets rich in fruits, vegetables, and whole grains were linked to a lower risk of lung cancer.

Another suggested that phytoestrogens, which are compounds naturally occurring in plants, may reduce lung cancer risk. These findings support public health recommendations to consume a diet high in plant-based foods for cancer prevention.

### **Micronutrients and heavy metals**

The study highlighted conflicting findings regarding iron intake and lung cancer risk. While heme iron (from animal sources) was associated with increased lung cancer risk, non-heme iron (from plant sources) had an inverse relationship, though this was adjusted when considering smoking history. The role of iron in cancer risk appears complex and warrants more investigation.

Exposure to heavy metals like copper, lead, and zinc was associated with an increased cancer risk. Additionally, maintaining adequate levels of certain micronutrients, such as zinc, selenium, and vitamins C and D, was found to lower cancer risk and potentially improve survival in cancer patients.

This underscores the importance of a balanced intake of these nutrients in cancer prevention and management.

### **Conclusions**

The study emphasizes the significant role of diet in cancer prevention, aligning with the ACS recommendations. It highlights the protective effects of the Mediterranean diet, fruits, and vegetables while also noting the potential risks of red meat consumption and high acid load.

The findings underscore the importance of diet quality, particularly in reducing the risk of various cancers, such as lung and breast cancer. However, the study also identifies gaps in understanding the mechanisms behind certain dietary benefits, like the Mediterranean diet's effect on cancer risk.

The study's strengths include its broad analysis of dietary patterns and cancer risk, offering valuable insights into the benefits of specific diets. However, limitations exist, such as potential bias due to the selection of recent studies and reliance on certain databases, possibly omitting relevant research.

Additionally, diet and cancer are linked in complex ways and influenced by environmental and genetic factors, many of which are partially unexplored.

Future research should focus on understanding the mechanisms behind diet-related cancer prevention, exploring the role of time-restricted diets, alternative diets, and the impact of unprocessed carbohydrates. This could lead to more personalized dietary recommendations and strategies for cancer prevention.

### **Journal reference:**

- Dietary Interventions for Cancer Prevention: An Update to ACS International Guidelines. Torres, Á., Quintanilla, F., Barnafi, E., Sánchez, C., Acevedo, F., Walbaum, B., & Merino, T. *Nutrients* (2024). doi: 10.3390/nu16172897. <https://www.mdpi.com/2072-6643/16/17/2897>

### **IN PERSON MONTHLY MEETINGS AT 55 PLUS**

The multi purpose room has been booked for the **third Thursday of every month from 7 PM till 9 PM**  
The meeting is available on Zoom as well for those that can not attend in person

## **MRI scans can predict aggressiveness in intermediate-risk prostate**

Corewell Health

Aug 7 2024

New Corewell Health™ research suggests an MRI scan can help predict whether patients with intermediate-risk prostate cancer (cancer confined to the entire prostate) may have more aggressive cancer in five years. Knowing this could potentially help doctors determine if treatment is needed up front vs. using a method called active surveillance where the disease is closely monitored over time. The study, recently published in the *Journal of Urology*, is the first to evaluate this risk group.

Currently, there has been a growing trend to manage low-risk prostate cancer patients with active surveillance to help patients avoid side effects associated with surgery or radiation. Patients are considered low risk when less than half of one lobe of the prostate is affected, and the cancer cells haven't mutated or changed much. However, for intermediate-risk patients, choosing what treatment path is best

“While active surveillance is the standard of care for low-risk patients, it's been unclear whether patients with a slower-growing form of intermediate-risk prostate cancer should be carefully watched or undergo immediate treatment. Our data suggests that an MRI can show suspicious lesions based on size and markers of tumor aggression, which may help doctors differentiate a treatment path for these patients.”

Kiran Nandalur, M.D., principal investigator of the study and radiologist at Corewell Health William Beaumont University Hospital

In the study, about 1,500 low- and intermediate-risk patients across Michigan were examined to determine if individuals with suspicious findings on an MRI test returned with a more advanced stage of the disease within five years. Here's what the study found

-Overall, 36% of the study participants who were watching their prostate cancer demonstrated more aggressive disease within five years.

-Considering traditional risk factors and using an MRI classification system that rates lesion suspicion, patients with high-risk imaging features were approximately 130% more likely to have more aggressive disease on follow-up than those with low-risk imaging results.

-Suspicious lesions on an MRI indicated more than twice the risk of progressive disease in both low-risk and intermediate-risk prostate cancer patients, which has not been previously shown in the intermediate-risk patients.

“The implication for patients and doctors is that an upfront MRI is important before undertaking any active surveillance for prostate cancer since it may help predict if an individual might come back with worse disease later,” Dr. Nandalur said. “This type of imaging helps pave the way for treatment planning so patients can live their lives to the fullest whether they decide to watch their cancer or seek treatment.”

Additional institutions contributing to the study include the Department of Urology at Wayne State University in Detroit, Michigan; Michigan Institute of Urology in West Bloomfield, Michigan; Brady Urologic Institute at Johns Hopkins University in Baltimore, Maryland; and the Michigan Urological Surgery

### **Source:**

[Corewell Health](#)

### **Journal reference:**

Nandalur, K. R., et al. (2024). Association of Baseline MRI PI-RADS Score With Prostate Cancer Active Surveillance Early Biopsy Reclassification: Data From the Michigan Urological Surgery Improvement Collaborative (MUSIC). *The Journal of Urology*. doi.org/10.1097/ju.0000000000004117.

## PRESIDENTS MESSAGE

Diet and exercise are the 2 kinds of self care that people with many kinds of cancer hear the importance of. In the cold of winter, it is easy to slack off on both of those. Ooooh, those comfort foods are tempting and bundling up to go outside can seem like too much work. I am fortunate enough to be where it is warm and sunny. There is an exercise group 2-3 times a week. Without a car walking about 10,000 steps a day is easy and riding my bike are routine. It is easy to do here but in NWO, not so much. You have probably heard the adage, “if you want someone to do it right, make it easy.” The Prostate Cancer Foundation of Canada is doing just that. In their newsletter is the question, “is your **butt in motion?**” and a reminder that PCFC offers free twice-weekly exercise and weekly yoga classes. You can take these in the privacy of your own home and partners are welcome. You can find more information and a link to register and exercise in your home here: <https://mailchi.mp/prostatecanada/your-monthly-debrief-for-august-16530711?e=d60514217f> I do hope to be able to get my snowshoes and X-country skis out when I get home. From the looks of the weather, I should be able to do that. But, for now, I will enjoy my warm weather exercise.

Another thing we can take time to do during the winter is read. With elections coming, the importance of health care is on many minds. I was interest to hear how Movember is spending some of the money they raised. Here is what they reported in a resent email that I received. Where you were born, how much money you make, your ethnicity, race and gender and other factors, shape the cancer care you receive. But today, on World Cancer Day, Movember pushes back. By investing \$3.6 million (USD), over three years, in 18 grants to create more equitable prostate cancer care. The grants are spread across five countries – six in Canada, five in the United Kingdom (co-funded by Prostate Cancer UK), three in Australia, three in the United States and one in Ireland – each having a specific focus population and care area.

Canadian recipients:

A study found Indigenous men had more aggressive tumor characteristics compared to non-Indigenous men yet were half as likely to be screened for prostate cancer. The **University of Alberta’s** grant will address this equity gap by focusing on lifting education, awareness and screenings in rural, Indigenous communities.

The support around a patient with prostate cancer makes a huge difference in their lived experience. **Dalhousie University’s** grant will help to build those empowering networks, particularly within Black, rural and Indigenous, LGBTQIA+ people. Funds granted to **The Walnut Foundation** will strengthen health literacy and help seeking behaviours within Canada’s Black communities by developing culturally diverse educational materials. Many methods including conferences, presentations and social media will be used to deliver the material to targeted communities.

We try to do our part in NWO with our educational programs, and support for local research and treatment as well as supporting these other programs that support us and our work.

Stay safe and I’ll be home soon.

Sincerely



Ed Long

President

## Upcoming Events

- March 20 Dr Joe Del Paggio at our general meeting on treating localized prostate cancer (7:00 pm)
- First Thursday of each month coffee at 10:am at The Persian Man on Central and Tungsten
- Third Thursday of each month general meeting at 55 Plus at 7:00 pm

## DONATIONS

Prostate Cancer Support Thunder Bay is a charitable organization that relies entirely on donations to remain in operation.

donations can be e-transferred to [info@prostatecancersupporttbay.org](mailto:info@prostatecancersupporttbay.org)

## PCS THUNDER BAY

### CONTACT US AT

1100 MEMORIAL AVE- SUITE 374  
THUNDER BAY ONTARIO P7B 4A3

### PHONE:

807 627 0333

### EMAIL

[info@prostatecancersupporttbay.org](mailto:info@prostatecancersupporttbay.org)

### WEB SITE:

[prostatecancersupportbay.org](http://prostatecancersupportbay.org)

## Recently diagnosed with Prostate Cancer ?

### NEED SOMEONE TO TALK TO?

Please feel free to call anyone listed on the left side of the front page of this newsletter.

They have been where you are now and will be happy to listen to your concerns and questions.

### Prostate Examiner Monthly News

Please forward photos or information that benefits communication to Prostate Cancer Support Thunder Bay members to the attention of Mike Aldrich.  
email: [mraldrich@tbaytel.net](mailto:mraldrich@tbaytel.net)



# \*\*GET YOUR PSA TESTED\*\*

**Its important**

We believe in it so strongly that

**we will reimburse you for your PSA test !!!**

The PSA test is a key step in early diagnosis of prostate cancer

**Early Detection Saves Lives  
Get Informed!**

**Talk to your health care professional! Get your blood work done!**

**Send us the receipt**

Address below or check us out on our website

**Has been extended to December 31 2025. Available for men in NWO.**

**PCS T Bay Members, please share the above message !**

**Inform your family, relatives, friends and neighbours to request a**

## **PSA Test**

**Awareness Support Research**

Telephone 807 627 0333

1100 Memorial Ave, Suite 374

Email [info@prostatecancersupporttbay.org](mailto:info@prostatecancersupporttbay.org)

Thunder Bay ON, P7B 4A3

Web [www.prostatecancersupporttbay.org](http://www.prostatecancersupporttbay.org)