

The Digital Examiner

www.ProstaidCalgary.org



Greetings prostate cancer community, friends, and neighbours.

Happy New Year and the very best of 2018! New Year's

resolution or not, I hope you consider making health and exercise a priority in 2018. Research has proven that physical activity and exercise are critical factors for both fighting prostate cancer and preventing recurrence. And physical activity is shown to improve your physical AND emotional health. Talk about a win-win!



If it's been a while since you last attended a monthly General Meeting (GM), come on back and give us another try. If you've never attended a GM, there's no time like the present! We have an incredible line-up of guest speakers joining us in 2018 and some of the friendliest members out there. Yes a prostate cancer diagnosis is scary, but you don't have to feel like your alone. Let PROSTAID Calgary be your shoulder to lean on.

PROSTAID Calgary is also organizing some exciting community focused awareness events in the coming year and volunteers are needed. Get involved! Volunteering is a great way to connect with the community and imparts a sense of purpose that contributes to overall happiness and mental well-being. It's a simple thing that has a positive impact on you and your community.

Final Reminder: For those of you who receive monthly issues of The Digital Examiner via Canada Post delivery, your renewal is now past due. PROSTAID Calgary requires a minimum donation of \$25 to cover the associated production/delivery costs. Please mail your cheque to PROSTAID Calgary, PO Box 72126, RPO Glenmore Landing, Calgary, AB T2V 5H9, and write "2018 DE delivery" in the memo line.

PROSTAID Calgary relies on the generosity of the community to keep our programs running.

Donating is easy! Just give us a call 403-455-1916 or email info@ProstaidCalgary.org or visit www.ProstaidCalgary.org. Online Donations are graciously accepted via [Visa](#) and [MasterCard](#).

Warm wishes,

Kelly Fedorowich

Executive Director, 403-455-1916

January 2018

Number 220

Meeting Schedule Tuesday January 9, 2018

7:30-9:00PM	General Meeting (GM) Guest Speaker: Carole Chambers Room 205 (Lecture Room) Kerby Centre
6:30-7:30PM	Warriors Group Advanced & Recurrent Disease Room 208 (Board Room) Kerby Centre
6:30-7:30PM	Welcoming Group Providing information, support and camaraderie at every stage of the prostate cancer journey. Room 205 (Lecture Room) Kerby Centre
6:30-7:30PM	Wives, Partners & Caregivers Room 313 (Third Floor) Kerby Centre

Carole Chambers,

B.Sc.(Pharm) MBA
FCSHP FISOP

Presentation Topic: Cancer Drug Pathways

Carole is the Pharmacy Director of Cancer Services with the Alberta Health Services, with over 50 peer reviewed publications. She currently serves on the provincial advisory group for pCODR and the panCanadian pricing negotiating teams dealing with access issues to new oncology agents. She also joined the Board of the Institute of Safe Medication Practice

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The Kerby Centre is located at 1133 7th Ave SW. Parking is FREE in lots on both sides of 7th Ave. Remember to register your vehicle license plate number at reception to avoid ticketing. The WEST LRT conveniently stops at the front doors of the Kerby Centre.

Our General Meetings are open to the public and free. A light snack and refreshments are served.

Ladies, family members, and caregivers are always welcome!

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Volunteer Facilitator Needed

Wives, Partners & Caregivers

Volunteer Facilitator Needed

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Carole Chambers Continued

(ISMP-Canada). Carole has remained active in ISOPP since completing her term as ISOPP President in 2010 as she sits on the JOPP Editorial Board, served on the Scientific Committee for ISOPP in Montreal 2014, and is a member of the team generating the ISOPP virtual journal club. She holds an ISOPP Fellowship as well as the Helen McKinnon award recognizing her significant contribution to ISOPP and oncology pharmacy practice.

An old drug for alcoholism finds new life as cancer treatment

By age 38, the patient's breast cancer had spread to her bones, a typically fatal turn of events. She became an alcoholic, and her doctors stopped all cancer treatment, instead giving her a drug to discourage her drinking. She died 10 years later, after an inebriated fall from a window. But an autopsy revealed something unexpected: Her bone tumors had mostly melted away, leaving only a few cancer cells in her marrow.

That 1971 case report, along with numerous lab studies, have suggested that the 6-decade-old drug disulfiram (commercially known as Antabuse), which makes people feel sick from drinking small amounts of alcohol, might also be a cancer fighter. Now, researchers have finally figured out how—by blocking a molecule that is part of a process that gets rid of cellular waste.

Starting in the 1970s, scientists found that disulfiram killed cancer cells and slowed tumor growth in animals. It increased survival in women who had breast tumors removed in a small clinical trial published in 1993. But since then, disulfiram hasn't gotten much attention for treating cancer, partly because scientists disagreed about how it worked.

In the new study, a Danish-Czech-U.S. team first firmed up the drug's anticancer effects by combing through Denmark's unique cancer registry—more than 240,000 cases diagnosed between 2000 and 2013, along with data on the medications each patient took. Of the more than 3000 patients taking Antabuse, the cancer death rate was 34% lower for the 1177 who stayed on the drug compared with those who stopped taking it, the researchers report today in *Nature*. The drug was an equal opportunity anticancer weapon; its benefits held for prostate, breast, and colon cancer, as well as cancer overall.

The researchers also confirmed that disulfiram slows the growth of breast cancer tumors in mice, particularly if combined with a copper supplement, which was already known to enhance its effects. They then showed that when the mice broke down disulfiram, its main metabolite, ditiocarb, forms a complex with copper that blocks the machinery that cells use to dispose of misfolded and unneeded proteins. "Everything is frozen," says cancer biologist Jiri Bartek of the Danish Cancer Society Research Center in Copenhagen, a co-leader of the study. Partly because of the resulting protein buildup, the cancer cells become stressed and die.

Although some approved cancer drugs and others in development interfere with the same protein cleanup process, known as the ubiquitin-proteasome system, disulfiram targets only a specific molecular complex within this machinery. That could explain why it is so effective. The team also solved another puzzle—why normal cells aren't harmed by disulfiram, even when patients take it for years. For unclear reasons, the copper metabolite is 10 times more abundant in tumor tissue compared with other tissues.

Despite the compelling 1971 anecdote, disulfiram probably "is not a cure" for most cancer patients, cautions cancer biologist Thomas Helleday of the Karolinska Institute in Stockholm. However, the drug could help extend the lives of patients with metastatic cancer—it's already shown evidence of doing so when combined with chemotherapy in a small lung cancer trial. Researchers are now launching trials to test a disulfiram-copper combo as a treatment for metastatic breast and colon cancers and for glioblastoma, a type of brain cancer. Finding a new use for an approved drug is appealing because the compound has already passed safety testing.

Written by Jocelyn Kaiser for ScienceMag.org

Article has been abridged. [Click here to read in its entirety.](#)

Zebrafish lead Dalhousie researchers to important discoveries in Prostate Cancer

The zebrafish, a four- to six-centimetre minnow, has led researchers to remarkable revelations about the development and treatment of human disease. These include a surprising discovery about prostate cancer.

To state the obvious, the zebrafish does not seem to share many human qualities. But it's a vertebrate with two eyes, a mouth, ear, nose, brain, spinal cord, intestine, pancreas, liver, bile ducts, kidney, esophagus, muscle, blood, bone

and cartilage. In fact, 70 per cent of human genes are found in zebrafish. That means when diseases invade those body parts in humans, scientists can try to model the same conditions in zebrafish and manipulate them in search of new treatments. And zebrafish make it so easy to see the results: they are transparent.

“We can take a three-day old zebrafish embryo and most of the organs have already developed,” explains Dr. Dellaire, a professor in the departments of Pathology and Biochemistry & Molecular Biology who’s been collaborating on zebrafish research for about a decade with Dr. Berman, a pediatric hematologist/oncologist at the IWK Health Centre and professor in the departments of Pediatrics and Microbiology & Immunology. “In three days, we can conduct an entire experiment and start to see and measure the impact.”

Dr. Dellaire’s main interest is the treatment of solid tumours found in breast, lung and prostate cancer. He sees zebrafish as an important vehicle for developing personalized cancer therapies.

Although men with early-stage prostate cancer are cured by surgery and radiation, cures are more elusive for men with late-stage prostate cancer. These men are treated with drugs to curtail testosterone, the androgen hormone that fuels the growth of prostate cancer cells. Within three years of starting treatment, 100 per cent will develop castration-resistant prostate cancer that no longer responds to anti-androgen therapy. Once a patient develops castration resistance, he rarely lives longer than 24 months.

About five years ago, a potent new drug called enzalutamide (brand name Xtandi) entered the market, with heartening promises that it could extend the lifespan of castration-resistant patients for several months. Dr. Dellaire and his team of researchers had no reason to suspect otherwise. They simply wanted to continue their quest to personalize cancer treatments.

In collaboration with Dr. Berman, the Dellaire group began to study how prostate cancer cells responded to testosterone and enzalutamide after engraftment in zebrafish. Research associate Nicole Melong played a key role in developing the techniques that enabled the researchers to successfully culture prostate cancer cells and graft them into the zebrafish, and in conducting the drug-testing studies that followed.

The zebrafish did not let the researchers down — but the testing soon exposed a previously unknown side effect of enzalutamide. When the drug was added to zebrafish water, the fish developed an erratic heart beat (arrhythmia), which quickly led to bradycardia (a very slow heartbeat). Within three days, all the zebrafish died. Even when researchers adjusted the potency of the drug, they found it caused heart problems at half the concentration found in the blood of patients on enzalutamide.

Not all men are susceptible to heart arrhythmia but, as Dr. Dellaire points out, heart problems are more likely to develop in men over the age of 60 — just the age when prostate cancer rates begin to spike. “There is no black box warning for physicians about possible cardiac side effects, and no prescribing guidelines in the literature on the company website,” he notes.

What would Dr. Dellaire do, if faced with the difficult choice between an effective cancer treatment and possible cardiac arrest? “Before taking the drug, I would ask my physician for a stress test to make sure I have no underlying heart condition.”

This study, funded by Prostate Cancer Canada and the Movember Foundation, was published in the online journal [Scientific Reports](#).

Research Activities at the Prostate Cancer Centre



Prostate Cancer Centre

Prostate Cancer Centre is currently recruiting patients for the following studies. For

additional information on these studies please feel free to contact the Director of Research, Lori Styner at 403-943-8904.

APCaRI (Alberta Prostate Cancer Research Initiative) – Evaluation of potential biomarkers to help the clinical management of prostate cancer.

EMBARK: Study of Enzalutamide Plus Leuprolide, Enzalutamide Monotherapy, and Placebo Plus Leuprolide in Men With High-Risk Nonmetastatic Prostate Cancer Progressing After Definitive Therapy

<https://clinicaltrials.gov/ct2/show/NCT02319837?term=embark&cond=Prostate+Cancer&rank=1>

HERO: A Study to Evaluate the Safety and Efficacy of Relugolix in Men with Advanced Prostate Cancer

<https://clinicaltrials.gov/ct2/show/NCT03085095?term=hero&cond=Prostate+Cancer&rank=2>

ARAMIS: Study of ODM-201 in Men with High-risk Non-Metastatic Castration-Resistant Prostate Cancer

<https://clinicaltrials.gov/ct2/show/NCT02200614?term=aramis&cond=Prostate+Cancer&rank=1>

Volunteer Opportunities Peer Support Group Facilitators

Facilitator: PROSTAIID Calgary Welcoming Group

PROSTAIID Calgary's Welcoming Group provides information, support and camaraderie to men and their families at every stage of the prostate cancer journey.

We are currently looking for an individual with a sincere interest in helping others on the often difficult journey of prostate cancer. Our Support Group Facilitators lead a group of individuals who are living with a prostate cancer diagnosis. This group meets once per month. Facilitators provide a safe, welcoming environment for prostate cancer survivors to share and learn from each other's experiences. Additionally, facilitators foster the participation of group members, to ensure that everyone who wishes to participate has the chance to do so.

This group takes place on the second Tuesday evening of each month from 6:30pm to 7:30pm at the Kerby Centre, 1133 7th Ave SW. Parking is free in lots on both sides of 7th Ave.

Facilitator: PROSTAIID Calgary Wives, Partners & Caregivers Group

Prostate cancer is a couples disease. We are currently looking for an individual with a sincere interest in helping others through the often difficult journey of prostate cancer. A level of personal understanding of caregiver challenges and confidence in the role is important. Talking to someone who understands exactly what you are going through may help to relieve some of your greatest fears and worries. You can also learn what to expect after prostate cancer treatment.

This group takes place on the second Tuesday evening of each month from 6:30pm to 7:30pm at the Kerby Centre, 1133 7th Ave SW. Parking is free in lots on both sides of 7th Ave.

Recruiting New Board Members

PROSTAIID Calgary is looking for board members who believe in our mission and are willing to be active in their governance roles.

Directors are responsible for overseeing the mission and purpose of the organization. Duties include participation in strategic planning and making policy decisions, then securing the financing of them and the monitoring of their execution. Members must be willing to attend monthly meetings, follow through on commitments, and participate fully in the decision-making process. The board also presents the organization's image to the community and solicits its support in achieving PROSTAIID Calgary's goals.

Monthly board meetings are hosted on the first Thursday of every month at the Kerby Centre from 12pm - 1:30pm.

Please contact Kelly for more information: 403-455-1916 or info@ProstaidCalgary.org



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