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COMMUNICATION

The Voice of Pharmacists in Manitoba

Continuing Education

Therapeutic Options Focus On Benign Prostatic Hyperplasia

The Last Word

The Decline Effect: Is it the Research that Makes Drugs Work?

Feature

Frostbite

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THIS ISSUE

JANUARY/FEBRUARY/MARCH 2012

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What Will A New Year Bring?

We have just embarked on another year in the practice of pharmacy. It will be interesting to see what 2012 will bring. We can be assured that more rounds of generic medication pricing cut backs will follow the release of Bulletin 66. The most recent Formulary update is just the tip of the iceberg.

ALAN LAWLESS

We are one of the last jurisdictions in Canada to undergo generic drug reform so this is inevitable. We still have not heard Manitoba Health's plan on how they will implement new generic prices but if it is anything like the Bulletin 66 rollout it will be unilateral and without consultation. We must be prepared for this as it has been suggested that Formulary updates will happen on a more consistent scale.

Another issue that will hopefully be put to rest is the ongoing saga that is Bill 41. We need to move on. The practice of pharmacy is evolving, and we must follow. We need the legislation to enable pharmacist's expanded scope of practice as well as remuneration of paid services. This is especially important in the era of generic drug reform.

There will be elections for MPhA council positions in 2012. It would be nice to see support at the All Candidates Forum to ensure that your votes are well cast. Be ready with questions and be active in the future of your profession.

CPhA will be hosting a first ever Futures Forum in 2012. This will bring together advocacy bodies from all over the country for meetings on the direction of pharmacy. This has made me think about what are the most important mandates in the profession. Are they economic, legislative, or educational in nature? It is tough to say what is the most important issue going forward but we all know the importance of economics and the unification of our profession. There are many battles being fought all across the country and we are facing them here as well.

One last opportunity that is of utmost importance in 2012 is that of dealing with third party payers. In the new world of fee caps, abhorrent audit processes, and fighting for equitable payment for pharmacy services, we need to have a unified front and stance on negotiation and discussion with these groups. Hopefully the Futures Forum will help to address this as most of these decisions happen at a federal level and CPhA in conjunction with our respective advocacy bodies seem like the most logical voice to carry this fight forward.

I would like to take this opportunity to thank the membership of MSP for their support of our organization. I see week in and week out the commitment that the representatives of MSP put into their roles and it is something that each and every one of them takes seriously. I would also like to personally thank the staff and Board of Directors of MSP for their efforts in driving our profession forward. All the best to everyone in 2012 and let's look forward to another year of change in the world of pharmacy.

It Isn't Child's Play *Medications Return Program Introduced To Manitoba*

The Manitoba Society of Pharmacists in partnership with the Post Consumer Pharmaceutical Stewardship Association, *Take Pride Winnipeg!* Inc. and the Manitoba Pharmaceutical Association teamed up to introduce the Manitoba Medications Return Program at the 2011 Green Lifestyle & Natural Living Show.

The Public Relations Committee would like to share highlights of the two day expo which attracted approximately 5,000 people to the Winnipeg Convention Center.

We launched an extensive communication campaign which included radio advertisements, an expo publication and appearances on CTV Morning Live and the Breakfast Channel.

Hats off to the volunteers!

I would like to acknowledge the volunteers that manned an information and display booth at the Expo on Oct 23 and 24. Serving as a volunteer reflects your commitment to advocating on behalf of Manitoba pharmacists and provides a fantastic opportunity to become engaged with the community. Our profession is more than a job and we thank the volunteers who give their time and talent for the benefit of all Manitoba pharmacists. These dedicated volunteers include Amir Youssef, Amy Oliver, Chris Tsang, Jugnu Lodha, Michael Dwilow (Student), Samantha Kendall (Student), Ginette Vanesse (Executive Director, PCPSA), Tom Ethans and Staff (Take Pride Winnipeg Inc.)

Sincerely,

Gayle Romanetz, Chair, Public Relations Committee

Photos from the Green Expo Booth

Take Pride Staff with Gayle Romanetz, Public Relations, Chair

Volunteers: Michael Dwilow (Student), Samantha Kendall (Student), Amy Oliver (Pharmacist), Amir Youssef (Pharmacist)

Ad in Green Lifestyle and Natural Living Show Magazine

Ginette Vanesse, Executive Director PCPSA with Amir Youssef, Pharmacist

MMRP e-news

Post-Consumer Pharmaceutical Stewardship Association

Ginette Vanasse
Executive Director

Medications Return Program e- newsletter is published by PCPSA to keep you informed with respect to recent developments in the Manitoba *Medications Return Program*.

	Q2		Q3	
District	**Kg**	**Pails**	**Kg**	**Pails**
CENTRAL	153.96	15	58.96	8
EASTERN	80.98	7	61.01	4
INTERLAKE	169.95	14	171.78	15
MIDWESTERN	0	0	0	0
NORTHERN	950.28	90	744.14	66
PARKLAND	0	0	0	0
WESTERN	51.99	6	117.97	13
WINNIPEG	1336.35	146	1729.13	174
Totals	2743.51	278	2882.99	280

A sticker indicating your participation in the MMRP is available. You can order stickers with your next pick-up or use the promo form available on our website.

This report provides information on the number of containers as well as the total weight of returns since inception. Thank you for your cooperation with the program guidelines.

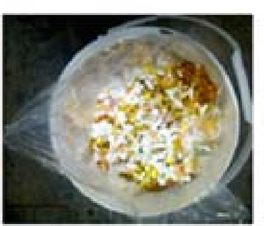
"Watch Out"

A short video promoting safe disposal of medications has been completed. To view video, please go to www.medicationsreturn.ca/british_columbia_en.php

Program guidelines

Take the clear liner, unfold it and place it around the opening. Ensure that at least the top (10 cm of the liner) are folded back on the outside wall of the pail. Once the pail is **full**, securely tie the liner inside the pail. Put the lid on and rotate it clockwise, the red locking tab should be engaged so that the lid cannot be rotated counterclockwise.

Please discard all extra packaging to maximize usage of containers. The picture on the right is a good example of collection, no extra packaging.



Empty vials, plastic bags sharps and sharps containers and all packaging should be removed and discarded properly. NOT THROUGH THIS PROGRAM.

All expired stock and solid chemicals used for making compounds **are not** part of the *Medications Return Program*.

Containers should weight at least 10 kg.

Remember to inform your staff on how to properly dispose of chemicals and to follow program guidelines.

406-1111 Prince of Wales Drive
Ottawa, Ontario K2C 3T2
613-723-7282

info@medicationsreturn.ca
www.medicationsreturn.ca

Medications Return Program News

PCCA (Professional Compounding Centers of America) Compounding Pharmacist of the Year Award

Dennis Wong, of CD Whyte Ridge Pharmacy, is the recipient of the PCCA Canada's 2011 Compounding Pharmacist of the Year Award. The presentation was held at PCCA Canada's Regional Seminar at the Hyatt Regency in Vancouver B.C. Surrounded by family, friends, staff and colleagues, Wong was also presented with a video featuring interviews and greetings from staff and colleagues, including Wong's wife and business partner Cindy Yap-Wong, who all expressed their admiration for his continued dedication to his patients and pharmacy.

For Wong the award holds a special meaning because it is selected by colleagues and peers in the pharmacy industry.

"The award is an honour for me," Wong said. "It's chosen by pharmacists from a compounding group in Houston, Texas. They choose from over 300 member pharmacists from across Canada. Some of these pharmacists have been mentors that I have learned from, so it's great to be on the same level as them."

A 1990 graduate of the University of Manitoba's Faculty of Pharmacy, Wong has been in practice ever since. Interestingly enough, pharmacy wasn't Wong's first career choice as a young man.

"When I was in high school I had no interest in pharmacy, but I knew I wanted to be in medicine," Wong said. "My brother directed me to pharmacy with the idea that I could return to medicine some day and I've never looked back."

The Compounding Pharmacist of the Year Award is the latest in a string of honours that Wong has received throughout his career. In 2004 he received the Bonnie Schultz Memorial Award for Practice Excellence in Patient Care awarded by the Manitoba Pharmaceutical Association, and in 2009 he was presented the Wyeth Apothecary Award for Manitoba in recognition of his professional achievement through advanced learning.

Dedicated to continuous learning, Wong has furthered his career and his practice by receiving specialized training in Customized Compounding, Bio-Identical Hormone Replacement Therapy, Pain Management, Nutrition, Dermatology, and Functional Endocrinology from the PCCA. He is also trained in Palliative Care through the Victoria Hospice Society.

Wong is a certified Clinical Nutritionist, a Diplomat with the American Board of Anti-Aging Health Practitioners and has completed the Fellowship in Anti-Aging, Regenerative and Functional Medicine. He is currently enrolled in the Functional Medicine Certification Program with the Institute for Functional Medicine and a Masters Program in Metabolic and Nutritional Medicine with University of South Florida, School of Medicine.

Dennis Wong, recipient of the PCCA Canada's 2011 Compounding Pharmacist of the Year Award

Wong has high praise for the mentors throughout the country and through PCCA who have helped him throughout his career.

"When I wanted to open my own pharmacy I met lots of compounding pharmacists who worked in the holistic area. They helped me and consulted me on what kind of training I should have," he said. "The PCCA group also has a pharmacy consultant to help the PCCA members."

By working as a team with both doctors and patients Wong emphasizes a personal level of contact with patients and by practicing an all-inclusive approach to health he and his staff attempt to make sure patients live better lives.

It's an approach that appears to be successful and after twenty years Wong still finds his work as a pharmacist rewarding.

"It's important to me when a patient says that you are the most accessible pharmacist and that you've provided me with more help than I've received in twenty years."

Treatment of Dry Skin and Eczema

The previous article provided a review of various types of ointment bases and their properties. This second article in the series covers the use of moisturizers and medications in the treatment of dry skin and eczema.

MEERA B. THADANI
M.Sc.(Pharm.)

Summary

Dry skin also called xerosis, asteatotic eczema or eczema craquele is defined as the abnormal dryness of the skin and mucous membranes.

Eczema is defined as a chronic, inflammatory, pruritic (itchy) skin disease. The causes are not understood but genetic, environmental and immune-dysfunction contribute to the disruption of the skin barrier causing red patches, papules and plaques. It can start in early infancy and childhood and persist (10-20%). It can also start in adulthood and persist (1-3%).

Acute or severe eczema causes the skin to become red and patchy with papules, and plaques and is injured (excoriated) by scratching. Injured skin may leak serous fluids. Lesions that do not heal can become thickened (lichenification) and cracked (fissure).

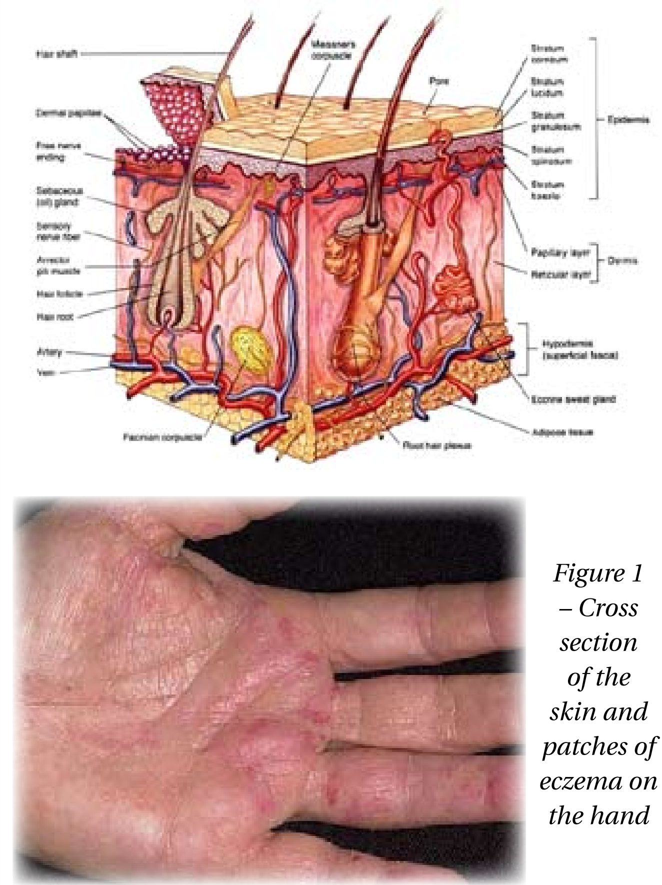


Figure 1 – Cross section of the skin and patches of eczema on the hand

In children arms, legs, face and trunk are affected because children can easily scratch these areas. In adults the face, neck, wrists, hands and feet are often affected (Figure 1).[1,2,3]

Treatment

The goals of treatment are to:

- Decrease the number and frequency of exacerbations
- Increase the time of remissions
- Preserve the skin barrier
- Avoid triggers
- Use non-pharmacologic and pharmacologic treatments

Non-pharmacologic treatment

There are many strategies that can be suggested to the patient and these include:

- Avoidance of allergens
- Use of emollients
- Use of non-prescription hydrocortisone (0.5%)
- Maintaining skin hydration to avoid itching and scratching

The ideal moisturiser should maintain appearance and integrity of the skin by:

- Reducing water loss by trapping moisture into the skin
- Restoring the lipid barrier
- Repairing the skin barrier

If self-care strategies are not working then, physician referral should be suggested. It will involve prescription medications that include higher potency topical corticosteroids and topical calcineurin inhibitors.

Moisturisers

Alterations in the lipid layers in the epidermis (Figure 1) affect barrier function of the skin. Ceramides are extracellular lipids that contribute to the integrity of the lipid bilayer and it has been suggested that these are lacking in skin during eczema flares. Emollients containing ceramides (Cetaphil Restoraderm, Impruv) can be used on a regular basis to protect the skin and decrease the potential for exacerbations.

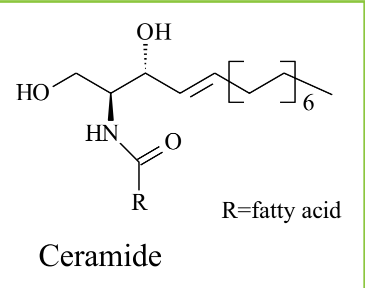


Figure 2 – Ceramide

EpiCeram was approved in 2009 as a non-steroidal product in the treatment of dry skin and eczema. It is prescribed and composed of a higher concentration of ceramide in combination with cholesterol and fatty acids. Its mechanism of action is provided in Figure 3.

Urea - $CO(NH_2)_2$ containing moisturizers without hydrocortisone are available without a prescription and those with hydrocortisone require a prescription. Each molecule of urea can hydrogen bond up to 5 molecules of water (Figure 4). Urea based moisturizers trap water into the skin hydrating the transepidermal layer.

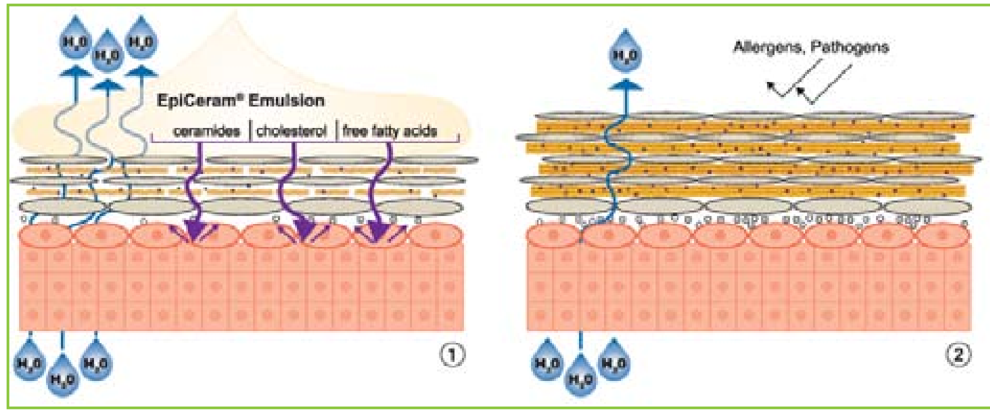


Figure 3 – Mechanism of action of EpiCeram. A 3:1:1 ratio of ceramide:cholesterol:free fatty acids facilitates repair. Lipids traverse the stratum corneum and are incorporated into the lamellar bodies of the stratum granulosum. This results in an increase in the lipid bilayers of the stratum corneum. Transepidermal water loss (TEWL) is normalized (not blocked) during this process, allowing barrier repair to proceed.[4]

Corticosteroids are used to control skin inflammation and the lowest potency is preferred for local treatment. Side effects of corticosteroids are directly related to the potency and duration of use and include fungal infections, herpes simplex, impetigo (bacterial skin infection) and viral warts.

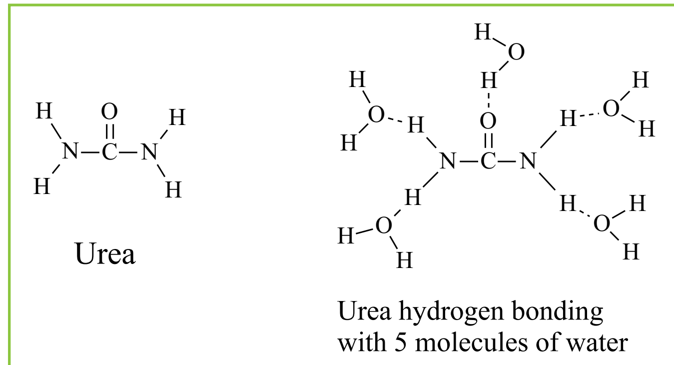


Figure 4 – Urea hydrogen bonding water molecules. Combination products with hydrocortisone are by prescription.

Diabetes and skin care

Dry skin is common with age, winter and physiological changes that can occur with diabetes or circulatory conditions. Diabetic skin and feet in particular are often dry, especially the heels. They are prone to cracks, fissures and therefore infections and ulcers. Amputations can be the result if the infections are not treated (Figure 5).

Urea is effective in trapping water into the skin as well as a keratolytic agent (≥ 20% up to 40%). At concentrations greater than 20% it may cause the skin to sting. As a keratolytic agent it is safe for diabetic skin and can be used to treat corns and calluses on the feet. Care of diabetic feet is important to prevent discomfort, injury, loss of mobility and physical activity. Foot care and proper footwear should be inspected at each follow up.

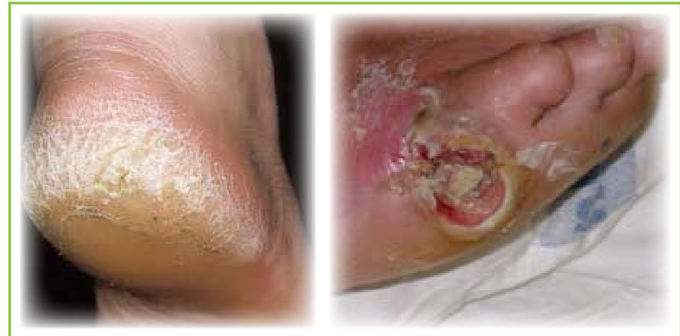


Figure 5 – Dry heel and diabetic ulcer

The bottom line

Dry skin and eczema can be chronic and relapsing. Hydration is the mainstay of therapy with the use of daily moisturizers. Ceramide and urea based products are helpful in trapping water into the skin and preventing transepidermal water loss. Improving skin barrier function and maintaining the integrity of the stratum corneum of the epidermis can decrease exacerbations and risk of infections. Regular use of moisturizers will help to improve quality of life (decrease flares, itching, better sleep, less depression).[5] Suggest fragrance free formulations to avoid the potential of allergic reactions.

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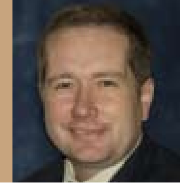
Is "2012" the Year of the Pharmacist?

Add me to the others who are pleased that 2011 is behind us. From the perspective of someone focused on the best interests of Manitoba pharmacists, 2011 will be remembered mostly as just wasted time. It was yet another year to come and go without the implementation of the new *Pharmaceutical Act.*

This past calendar year had started with much grander expectations and optimism.

The previous year had ended on a high note, with the November, 2010 vote on the Regulation Discussion Documents. Finally, about two and half years after the first regulations had been rejected by the majority of pharmacists, near consensus had been achieved and indications were Manitoba was now much closer to modernizing pharmacy practice.

SCOTT RANSOME



What a difference a year makes; the optimism has been replaced with frustration. The frustration that comes with having no involvement in something so important and given to others to manage.

Unless you are one of the handful of MPhA and MB Health representatives who have been meeting to review the Regulation Discussion Document since it was passed in November 2010, you really have no direct knowledge of what has been accomplished.

This Review process has either generated changes or generated recommended changes. Recently it has been announced that MB Health and MPhA have completed their joint review. Let's all hold off before anyone declares the completion of that exercise as any type of accomplishment. That pronouncement will need to wait until we all have more information.

MSP has also become aware that MB Health's Legislative Unit has sent the MPhA amended "Draft Regulations", and MSP has formally requested MB Health share this new document. To date MSP has not been provided with a copy of the new "Draft Regulations", but hopefully in early 2012, this document is shared widely.

Let us all understand that the document which 84% of voting pharmacists supported in November, 2010 is not the same document which is about to become our focus. What I currently am referring to as new "Draft Regulations", likely looks very similar to every other set of Draft Regulations or Bill 41 Discussion Documents produced since 2007.

Generally most sections of each new version of the document have either had wide support, are necessary and must be included, or is similar to other progressive legislation and for these reasons is not subject to disagreement. There are in fact only a limited number of sections of particular importance. Most of these sections are viewed as being important to Manitoba pharmacists; they detail the expanded scope of practice and secure the profession's immediate future. It was the specific and often precise wording of these sections which lead to the near consensus support in November, 2010.

How many substantive changes will be included in the new "Draft Regulations" will be known shortly. The worst thing that could happen would be that Manitoba pharmacists are not able to work through whatever issues or developments which are likely to arise shortly. This should not happen as long as everyone involved acts responsibly with a sense of common purpose to modernize pharmacy practice in Manitoba in 2012.

This has been a process which has been ongoing since early 2001, and Manitoba pharmacists should accept nothing less than completion this year. "2012" needs to be the year the scope of practice is expanded, and pharmacists are provided an opportunity to provide new services. The alternative is just not acceptable. Getting this finally done is the only option.

In recent MSP news the Economics Committee completed a new agreement with MB Health and Manitoba Regional Health Authorities which secured a retroactive increase for pharmacy services. The increase was modest and there are reports that some members have received their retroactive payments. Negotiations for a longer term agreement continue.

On other economic news, significant progress towards reaching a new agreement with Health Canada in relation to NIHB clients has been made. It is hoped a new agreement will be announced shortly.

Generic Drug Pricing Reform remains a priority for MSP, but there have been no developments of particular importance other than the changes included in the most recent Bulletin.

Pharmacists once again ranked the most trusted profession in Canada

Eight in 10 respondents say they trust pharmacists.

In an annual poll released this week by Ipsos Reid Canada, pharmacists were once again ranked as the most trusted profession in Canada in 2011 out of a list of 26 various professions. This top ranking is a repeat of a similar poll conducted by Ipsos Reid in 2010.

Specifically, about eight in 10 respondents (78%) say they trust pharmacists, followed closely by doctors at 75% and soldiers at 74%. At the bottom end of the scale, car salespeople (6%), national politicians (10%) and union leaders (16%) were the least trusted professionals.

The Canadian Pharmacists Association (CPhA) took the opportunity to advocate for further expanding pharmacists' scope of practice.

"As the most trusted profession in Canada, and as the most accessible healthcare provider, governments need to consider further developing the scope of responsibilities that pharmacists may undertake, and to provide proper compensation for those services," a statement from the association says.

"Extending scope of practice may not only make the health care system more efficient and reduce costs, it would put delivery of additional services in the hands of the health practitioner with whom Canadians have expressed their greatest trust."

Here's how Canadians rank the professions on trust:

Profession	Trust
Pharmacists	78%
Doctors	75%
Canadian soldiers	74%
Airline pilots	73%
Teachers	65%
Police officers	57%
Daycare workers	56%
Judges	52%
Accountants	48%
Chiropractors	43%
Plumbers	40%
Financial advisers	34%
Charity leaders	34%
Church leaders	33%
TV/Radio personalities	31%
Journalists	31%
Environmental activists	30%
Pollsters	27%
Lawyers	25%
Auto mechanics	23%
New home builders	21%
Chief Executive Officers	19%
Local municipal politicians	17%
Union leaders	16%
National politicians	10%
Car salespeople	6%

Source: Ipsos Reid
Written by Brett Ruffell, Reprinted with permission from CanadianHealthcareNetwork.ca.

Q&A: GETTING TO KNOW YOUR MANITOBA PHARMACISTS

Name: **Amy Oliver** (nee Grossberndt)

Place/Year of Graduation: BSc Pharm, University of Manitoba 2009

Years in Practice: 2½

Currently Working:

- Associate Owner of Shoppers Drug Mart in Polo Park, Winnipeg
- MSP Board of Directors
- Pharmacy Awareness Week Sub-Committee Chair
- MSP Committee involvement: PAW, Public Relations, Professional Relations, Government Relations, Conference Planning Committee
- MPhA Committee involvement: Professional Development Committee member, community representative on the Regulation Drafting Ad Hoc Committee
- Lecturer: Robertson College Pharmacy Technician Program
- Lecturer: International Pharmacy Graduate Seminars

Accomplishments in pharmacy:

- 7 peer-reviewed publications in the areas of neuropathic pain and Multiple Sclerosis (2007 - 2011)
- 2009 A. Langley Jones Leadership award for aptitude in community pharmacy
- 2009 MSP/MPhA Young Leader Award recipient
- 2008 CSHP/CAPSI Hospital Pharmacy Student Award
- 2008 Canadian Institute for Health Research Scholarship

Family: Married to Robin Oliver, Associate Owner of Shoppers Drug Mart in Selkirk, MB

Hobbies: Cooking, sketching

Community activities: Giving presentations to seniors groups in the community, flood fighting

Favorite thing about Manitoba: WINTER! Let it snow, let it snow, let it snow…

Most relaxing vacation choice: Manitoba cottage country

Pet peeves: Socks and sandals

Favorite fictional character and why: Paddington Bear because we share a love of marmalade

What could you do without forever: Salmon

What couldn't you do without for even a day: Milk

What you love about pharmacy: Lifelong learning

Do you know someone who is making a difference in the pharmacy community? We would like to highlight them in this article! Please contact the MSP office at (204) 956-6681 or info@msp.mb.ca.

An Update from your

Call to Action on Tobacco Reduction: Marketing a Smoking Cessation Service

Many patients benefit from more in-depth consultations with their pharmacist. However, the concept of how to integrate cognitive services into community practice is a missing piece of the puzzle for many of us. The Professional Relations Committee partnered with Pfizer on November 6, 2011 to deliver **Catalyst,** an innovative workshop to twelve pharmacists who completed QUIT training as a prerequisite to enrolment. This was an opportunity to consider which components of a smoking cessation service plan would fit within their pharmacy and how they could collaborate with physicians and promote these services to motivated smokers.

Set a date to QUIT

We continue to deliver live **QUIT** smoking cessation workshops to Manitoba pharmacists and convened a recent session in Winnipeg on October 29. Our goal is to increase access to training and to provide tools that will encourage pharmacists to provide support when their patients are ready to QUIT. To date, we have provided training to **166** pharmacists in the province.

The New Year is an ideal opportunity for pharmacists to encourage patients to set a date to quit smoking and make a positive change in their lives. Your Professional Relations committee has developed a poster and shelf talker that we encourage you to display in your smoking cessation sales area. We have also developed a Smoking Cessation Fee Guide and sample of an invoice that may assist you with implementation of a program in your pharmacy. The time and respective fees in the guide can be customized to your needs and are available in both excel and word format. See the Professional Relations Committee webpage to view the documents.

Suggested Resources

http://www.pharmacists.ca/content/hcp/resource_centre/practice_resources/helping.cfm

http://www.lung.ca/protect-protegez/tobacco-tabagisme/quitting-cesser/how-comment_e.php

http://www.cancer.ca/Manitoba/Prevention/Quit%20smoking.aspx?sc_lang=EN

Partnership with the Canadian Diabetes Association
A Win for You and for Your Patients

The Canadian Diabetes Association organized an educational expo on October 1, 2011 and the Professional Relations Committee took advantage of this opportunity to highlight the role of the pharmacist and raise awareness about the designation of many as Certified Diabetes Educators. An interactive **Ask the Expert** panel was organized and patients had an opportunity to ask pharmacists, a nurse and a foot care specialist questions that they did not have an opportunity to ask of their health care provider; the reward was a multidisciplinary approached answer. The event was well received by the public and MSP continues to explore new opportunities with the CDA to promote pharmacists as important primary care providers.

Thanks to **Amarjeet Makkar** and **Roger Tam** for their generous contribution of time and support which made this opportunity possible. Stay tuned for upcoming opportunities to participate in further collaborative efforts with the CDA.

Britt Kural & Gayle Romanetz
Professional Relations, Co-Chairs

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"Get on the Bus" with the Public Relations Committee

It is with great appreciation that I would like to acknowledge the many pharmacists that supported our efforts through a generous contribution to the Public Relations Fund. We have collected over $9,700 since launching the fund on May 15th, 2011. "This support allows the Public Relations Committee to expand our communication campaign far beyond Pharmacy Awareness Week" says Gayle Romanetz, Public Relations Committee Chair. "Two separate four week campaigns are planned for 2012; stay tuned for exciting details about our transit, newsprint, and radio promotions."

The Pharmacy Awareness Committee, under the leadership of Amy Oliver, has begun preparation for Pharmacy Awareness Week which will run from March 4th-10th, 2012. We anticipate that pharmacy students will bring similar vitality and enthusiasm to the 2012 program and it will be just as successful as last year.

The role of a pharmacist has evolved beyond the procurement and dispensing of medications and as health care demands increase, we must be well positioned to highlight and embrace emerging practice trends. Creating public awareness of pharmacists and the professional services they provide is fundamentally important to the future of the profession. Financial support has been the biggest barrier to moving forward with a successful communication campaign, and we hope you recognize the importance of public awareness and education.

I would like to thank all of you who so generously donated to the fund and supported this initiative. I would also like to extend an invitation to those who have not yet donated to the Public Relations Fund to "get on the bus" and become part of this important initiative. If you would like to make a donation to the Public Relations Fund, the donation form can be downloaded at http://www.msp.mb.ca/eventslist.php. You can also call the office directly at 956-6681. Thank you for your consideration and as always, your support is greatly appreciated.

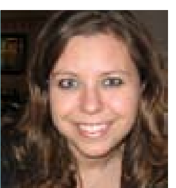
Sincerely,

Mel Baxter
President

Frostbite

1.) What is Frostbite?
2.) General Signs and Symptoms
3.) Degrees of Frostbite
4.) Risk Factors
5.) Frostbite Prevention
6.) Patient Assessment in the Pharmacy
7.) When to see a Physician
8.) Non-pharmacological Treatment
9.) Pharmacological Treatment
10.) Frostbite Complications
11.) Summary

PAM JOHNSON
B.Sc.(Pharm.)



What is Frostbite?

Frostbite occurs when skin and other tissues freeze, resulting in damage due to the formation of crystals. The duration of exposure and time the tissue stays frozen determines the outcome of severity, not the actual temperature itself, and wind chill and high humidity increase the risk. The main areas affected by frostbite include more exposed areas of the body such as the hands, fingers, feet, toes, cheeks, chin, nose and ears. Due to the numbness of the area, it is possible you may not realize you even have frostbite until someone else points it out.

General Signs and Symptoms of Frostbite:

There are many signs and symptoms of frostbite that should not be ignored. If you experience any, it is important to remove yourself from the cold before the frostbite progresses and causes irreversible damage. Symptoms include:

- Shivering
- Slightly painful, prickly, or itching sensation
- Localized cold, pain and numbness to area, burning feeling
- Red, white, pale, or grayish-yellow skin
- Hard or waxy looking skin
- Clumsiness due to joint and muscle stiffness
- Blistering in severe cases
- Possible cellular and tissue damage
- Electrolyte imbalances
- Severe: shock and arrhythmias

	Frostnip	Superficial Frostbite	Deep Tissue Frostbite
Color of Skin	Blue-white	Pale or white	Deep purple red
Skin	Loss sensation, transient numbness, tingling	Soft skin, some ice crystals may form in tissue. Skin may feel deceptively warm – bad sign	Hard skin
Rewarming Symptoms	Erythema and mild edema	Skin looks mottled, blue or purple. Stinging, burning or swelling. Clear blisters within 24-36 hours, fluid reabsorbs	Dark, haemorrhagic, fluid filled blisters. Deceptive numbness, lose sensation of cold, pain and discomfort. Large blisters 24-48 hours. Black and hard skin as tissue dies.
Long-term Effects	None, no tissue damage	Area remains sensitive to heat and cold	Muscle and nerve damage, loss of use, joints and muscles may no longer work

Degrees of frostbite.

Degrees of Frostbite:

There are 3 different degrees of frostbite, each with their own characteristic symptoms. Frostnip is the least damaging, while deep tissue frostbite can lead to irreversible damage.

Risk Factors:

Frostbite can occur as a result of:

1.) Losing body heat: Frostbite can occur along with hypothermia, which occurs when the body is losing heat faster than it can produce it, in turn decreasing body temperature. At this point the body is more concerned with protecting vital organs, so blood is circulated more to the organs than to the skin of the extremities, and the extremities freeze, usually at -2 degrees Celsius.

2.) Direct contact of skin with a frozen surface such as metal or ice. Touching a frozen object conducts heat away from the skin, therefore decreasing temperature, resulting in freezing.

Risk factors include recreational, general, and medical conditions/medications.

a.) Recreational:

Drug use: using alcohol or sedatives can impair judgement so an individual may not properly assess how cold exposed areas are. Alcohol also causes vasodilation which increases the risk. Smoking (or nicotine use) is also a risk factor.

b.) General:

a. History of cold injury, immobilization
b. Inadequate/restrictive clothing
c. Infants are at increased risk as they have a higher surface area to body mass
d. Older adults are at increased risk due to their bodies producing less heat, and vasoconstriction

c.) Medical Conditions/medications

a. Clonidine and opioids (inhibit shivering)

b. Psychiatric Illness
c. Neurological conditions (may impair cutaneous vasoconstriction)
    i. Peripheral neuropathy (nerve damage caused by injuries, infections, metabolic problems, exposure to toxins, most common cause is diabetes. Numbness and pain in hands and feet. Can be tingling or burning, or loss of sensation.)
    ii. Hypothalamic disease
    iii. Spinal cord damage
d. Cardiovascular conditions
    i. Peripheral vascular disease
    ii. Vascular disease
e. Endocrine disorders
    i. Hypothyroid, hypoglycemia, renal insufficiency (decrease in metabolic heat production)
    ii. Diabetics: peripheral neuropathy impairs awareness to reheat from cold conditions

Frostbite Prevention:

The best preventative measures are:

- Layers of warm clothing including hat, scarf, gloves
    - NO COTTON, use synthetic fabrics, fleece, silk or wool blends. Cotton retains moisture, therefore increasing freezing risk
- Moisturize exposed skin areas beforehand including face and hands
- Consider wind chill and high humidity (increases risk) – dress accordingly
- Keep feet dry, change socks regularly, inspect feet often
- Mittens instead of gloves due to finger contact keeping hands warmer
- Avoid touching objects subjected to extreme freezing ie. metal
- Limit time outdoors
    - Kids at increased risk as they don't want to come in while playing

Patient Assessment in the Pharmacy:

Pharmacists are often the first responders to patients with questions or problems, so it is important to point them in the right direction with the regard to treatment. Use the chart below found in Patient-Self Care to appropriately assess and refer patients.

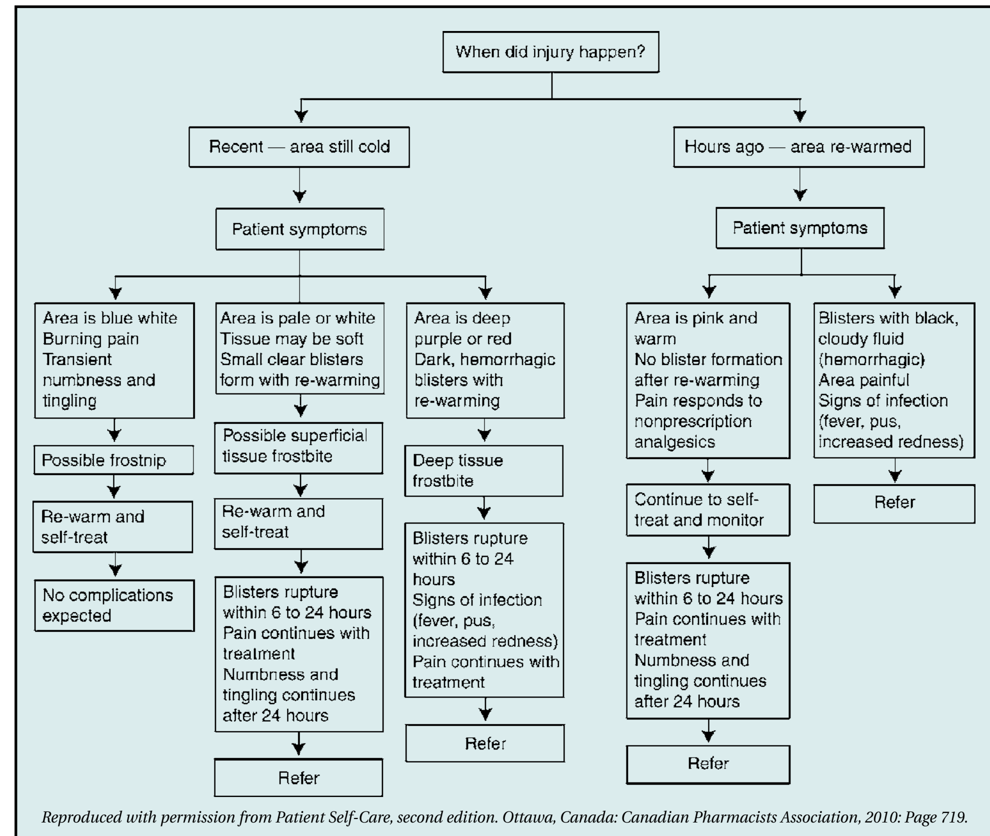
When to see a Physician:

Refer a patient to a physician under the following circumstances:

- Signs and symptoms of superficial frostbite or deep tissue frostbite when the patient's tissue is still frozen
- Patients with large blistered areas especially filled with milky or blackish fluid after rewarming.
- Increased pain, swelling, redness, or discharge in the area that was frostbitten (infection)
- Superficial frostbite where tingling and numbness last longer than 2 weeks
- Pain not controlled by non-Rx pain relievers
- Fever over 100.4°F or 38°C
- Dizziness, aching, or generally ill
- New, unexplained symptoms

Non-pharmacological Treatment:

Treatment includes removing wet constrictive clothing, warming the area until the skin is soft and red, and elevating the rewarmed area to decrease edema. The best way to warm the skin is to place the affected area in warm water (not hot) for 15-30 minutes. Alternatives include



Reproduced with permission from Patient Self-Care, second edition. Ottawa, Canada: Canadian Pharmacists Association, 2010: Page 719.

Patient assessment in the pharmacy.

placing your hands under your armpits, and covering the face, nose and ears with dry, covered hands. Do not apply frostbitten areas to direct heat such as a fire, heating pad, etc. as it can burn the skin.

It is very important NOT to rub the frostbitten area at any point in time! This causes friction that can increase the risk of tissue damage. Also do not apply snow to the frostbitten area! Once the area is dry, if the fingers or toes are affected separate them with dry cotton, and do not walk on frostbitten feet, as this could further damage the area. If blisters are evident, leave them intact to prevent infection, and if they do open, protect them with a non-stick gauze pad. Damaged tissue should be removed by a physician. Hydrotherapy such as whirlpools can help keep the skin clean, and remove dead tissue.

If someone has frostbite but there is a risk that the person will have refreezing to the area, it is very important NOT to rewarm the area, but the area should be insulated to protect it from freezing more. If the area is rewarmed and freezes again, it increases the risk of further tissue damage. If the area is already thawed, wrap the area so it does not become frozen again.

Pharmacological Treatment:

Minor frostbite does not require any pharmacological treatment. More serious frostbite should be treated with aloe vera gel every 6 hours to improve tissue survival. If blisters are ruptured topical antibiotics may be indicated, and if there is significant tissue loss a physician may prescribe systemic antibiotics. Tetanus prophylaxis may also be warranted.

The physician may wrap affected skin areas in thick bandages for protection, and if there is fear the muscles/bones may be involved, a brace or splint may be used by the physician. Keep areas elevated. The physician should remove damaged/dead skin, but may wait 1-3 months before doing so to help distinguish properly the damaged vs. healthy skin. Thrombolytics such as tissue plasminogen activator (TPA) may be used in very severe cases (can cause serious bleeding) to help prevent amputation and surgery may be required to remove dead or decaying tissue.

For pain NSAIDS are the treatment of choice due to their ability to decrease prostaglandin activity which minimizes tissue damage. If a patient cannot take NSAIDS, the next best choice is acetaminophen. If the OTC pain relievers are not sufficient, some patients with severe frostbite pain may require narcotic analgesics.

Frostbite Complications:

- Cold sensitivity, loss of sensation, pigment changes, nail deformities, hyperhidrosis (excessive sweating) may persist for years
- Changes in the cartilage between joints (frostbite arthritis)
- Growth defects in children if bone's growth plate affected
- Infection
- Gangrene
- Serious cases: mummification and auto amputation 22-45 days
- Long term: tingling and burning sensations lasting weeks
- Increased risk of getting frostbite again/increased sensitivity to cold
- Cold exposure that can cause frostbite can also cause hypothermia which if left untreated may result in heart and respiratory failure, leading to death.

Summary:

Frostbite is an acute freezing of tissue caused by temperatures below freezing point. It is caused by the formation of crystals in the tissue leading to tissue damage. There are three severities of frostbite including frostnip, superficial frostbite, and deep tissue frostbite. Signs and symptoms include shivering; localized cold, pain, numbness or burning to an area; painful, prickly, or itching sensation; hard or waxy red, white, pale, or grayish-yellow skin; and blistering. Risk factors can be recreational (ie. alcohol), general (ie. not dressed accordingly), medications (ie. clonidine) and medical conditions (ie. diabetes), and prevention is key. Wearing cotton fabrics is not recommended due to their ability to retain moisture, and feet should be kept dry and warm. Non-pharmacological treatments include rewarming the area in warm water for 15-30 minutes, and it is imperative not to rub the affected area at any time as this could increase the risk of tissue damage. Pharmacological treatments include aloe vera, NSAIDS, topical antibiotics, systemic antibiotics in severe cases, and tetanus prophylaxis. Frostbite can have many complications including amputation, so it is important to do everything you can to prevent getting frostbite in the first place.

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Clinical Controversies in Diabetes Management

By the year 2025, there will be approximately 380 million diabetics worldwide.[1] Sadly, type II diabetes is becoming more common in younger patients due to lack of physical activity and poor diet. In addition, diabetes is a major risk factor for cardiovascular disease as well as microvascular complications such as renal disease, peripheral neuropathy and retinopathy. This is clearly one disease state that requires our full attention as pharmacists.

Hospital as well as community pharmacists spend a good portion of their time with diabetes management and optimization of care. Clinical guidelines published by the Canadian Diabetes Association and the American Diabetes Association are valuable in terms of their guidance and recommendations for diagnosis and treatment options. However, due to the vast number of clinical studies that are published annually, new perspectives on diabetes management are often discovered before clinical guidelines can update their recommendations. This can create clinical controversies where disagreements between health care professionals arise. The following article will highlight three of these controversies and provide evidence to support alternate viewpoints.

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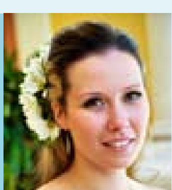

Clinical Controversy 1: Sliding Scale Insulin

The sliding scale of insulin administration was introduced in 1934 when blood glucose levels were estimated by performing a Benedicts test. This procedure involved boiling urine with copper sulphate solution. Depending on what color the urine turned based on its glucose content, a fixed amount of regular insulin was injected into the patient. If the urine was red, orange or brown, 10 units were injected. Yellow or green-yellow in color, 6 units were injected and blue or green, no insulin was required.[2] Once blood glucose testing became available to medical institutions in the 1960's, insulin administration algorithms were modified to accommodate the new technology. It was here that the sliding scale of insulin administration was put into practice.

When a patient is admitted to hospital, the physician often orders a sliding scale of insulin injections where the dose of insulin is dependent upon the blood sugar readings obtained by the nurse. The problem with this practice is that the insulin is being dosed *after* the fact. In traditional insulin regimens, insulin dosage adjustments are made to the insulin that affects the suboptimal reading. For example, if a patients' blood glucose is high prior to dinner, the insulin that affects the pre-dinner blood glucose is adjusted. With a sliding scale regimen, the insulin given is based on a prior blood glucose reading, but will be affecting the subsequent test.

Currently, there are no clinical studies supporting the use of sliding scale insulin, yet institutions still employ this practice. In an article regarding this issue, 52 clinical studies were pulled from PubMed and none supported the use of a sliding scale. In fact, Gearhart and colleagues compared the medical records of 47 patients admitted to hospital with diabetic ketoacidosis and found that patients who received sliding-scale treatment had a longer hospital stay (6.3 vs 4.4 days) and higher mean blood sugar levels (14.6 mmol/L vs 11.1mmol/L) compared to patients treated with intermediate and/or short-acting insulin.[3]

So why are we still using sliding scale insulin when there is no evidence for its use and could potentially be detrimental to patients? Many clinical practices are "grandfathered" in with little to no support from evidence based medicine. This is precisely one of those cases. The pharmacist's role in this case is to provide an insight into the benefits of basal insulin plus rapid-acting insulin (or pre-mixes) as a pro-active method rather than a retroactive method of glucose control.

Clinical Controversy 2: ARB plus ACEI therapy for nephroprotection

Combination therapy with an angiotensin converting enzyme inhibitor (ACEI) plus an angiotensin receptor blocker (ARB) to slow nephopathic complications of diabetes has made quite a stir in recent years. There is much conflicting evidence in terms of safety and whether there is any clinical benefit to overlapping agents.

The CALM trial in 2000 evaluated 199 patients with Type II diabetes with hypertension and microalbuminuria.[4] Patients were randomized to 12 weeks of candesartan or lisinopril monotherapy and then were treated either with 12 weeks of monotherapy or combination therapy. At 24 weeks, diastolic blood pressure was lower in the combination therapy group versus the monotherapy group (16.3mmHg decrease versus 10.4mmHg for candesartan or 10.7mmHg for lisinopril). In addition, there was a significant decrease in urinary albumin to creatinine ratio (ACR) with combo treatment (50% reduction) than with candesartan (24% reduction) or lisinopril (39% reduction). Overall, the treatments were well-tolerated with minimal side effects.

Perhaps the best evidence we have regarding the combination of ACEI/ARB therapy is the ONTARGET trial.[5] This was a large (n=25620) , well-known clinical trial that

evaluated ramipril 10mg OD versus telmesartan 80mg OD or combination therapy. Patients greater than 55 years with coronary, peripheral, or cerebrovascular disease or diabetes with end-organ damage were included in the study. The primary outcome was a composite of death from CV causes, MI, stroke, or hospitalization for HF and was found to be non-significant between monotherapies and slightly elevated in the combination group (HR 1.09, 1.01-1.18, p=0.037). Side effects such as hypotension, hyperkalemia and renal dysfunction were significantly higher in the combination groups versus either treatment alone.

A sub-analysis of the ONTARGET trial regarding renal outcomes (ITT analysis) discovered that with combination therapy, a primary composite outcome of dialysis, doubling of serum creatinine and death was higher than with monotherapy.[6] Adverse effects were also such as hypotension and renal failure were higher in the combination therapy group than with monotherapy. However, one positive outcome in terms of progression of microalbuminuria to macroalbuminuria favored the combination therapy group.

The most common interpretation of the ONTARGET study is that the combination of ACEI/ARBs has little clinical benefit in terms of mortality and progression of renal disease, an increased risk of harm to the patient and an overall increased incidence of detrimental side effects. Saying this, there are still patients who are being prescribed this combination and we must understand why. After critical appraisal of the ONTARGET trial, there may be a *very specific* subgroup of patients who may benefit from dual therapy. In this trial, patients were titrated very quickly to target doses which could have been detrimental, causing reduced renal perfusion and/or hypotension. The inclusion criteria stated that patients were required to have signs of diabetic target organ damage which could also bias results against combo therapy due to the vulnerability of the kidneys. The proportion of patients that actually qualified as having microalbuminuria and macroalbuminuria was only 29.7% and 12.2% respectively of all patients with diabetes, which is not representative enough to draw significant conclusions about benefits or harms of combo therapy in these populations. The sub-analysis looking at renal outcomes was actually underpowered despite the fact that 3500 renal outcome events occurred, limiting the applicability of the results. According to the K/DOQI Clinical Practice Guidelines on Hypertension and Antihypertensive Agents in Chronic Kidney Disease, ACEI plus ARB therapy in patients who have severe renal compromise defined as consistently high macroalbuminuria (ACR>500mg/day) *may* benefit from additional blockage of the renin-angiotensin-aldosterone system.[7] These recommendations are based on meta-analyses of small clinical trials demonstrating benefits of ACEI/ARB combo therapy in stage 3-4 kidney disease in terms of slowing progression of macroalbuminuria.[8]

As clinical pharmacists, what do we make of this dilemma? Until a high-quality, randomized, double-blinded trial in patients with diabetes and significant macroalbuminuria is conducted; we will continue to debate this issue. Combination therapy may be considered, as long as patients are monitored very closely for acute renal failure, hyperkalemia, hypotension and doubling of serum creatinine since long-term safety data has not been established. For all other patients, combination therapy should be avoided.

Clinical Controversy 3: ASA in type II diabetics for primary prevention

Low-dose aspirin therapy has been proven to possess major benefits in diabetic patients in terms of secondary prevention of stroke, MI and other cardiovascular events. What about primary prevention? Surely the benefits remain similar?

Actually, the benefits of aspirin therapy in primary prevention remain unclear. Several meta-analyses have failed to produce a significant difference between aspirin and no-aspirin control in terms of cardiovascular benefits or prevention of events. In 2009, the Antithrombotic Trialist Collaboration[9] conducted a meta-analysis of 6 primary prevention trials and 16 secondary prevention trials. Out of the primary prevention trials, aspirin reduced serious vascular events by ARR of 0.06% (0.51% aspirin *versus* 0.57% control per year, p<0.0001) mainly due to a reduction of about a fifth in non-fatal myocardial infarction. The effects on stroke, hemorrhagic stroke and vascular mortality did not differ significantly between groups. Aspirin allocation increased major gastrointestinal and extracranial bleeding (0.10% *vs* 0.07% per year, p<0.0001).

In another meta-analysis by Stavrakis and colleagues[10], there was a pooled 11% reduction in the hazard rate of major cardiovascular events compared with placebo or no-aspirin control that was *not* statistically significant (HR = 0.89, 95% CI: 0.70–1.13, P = 0.33). In addition, no significant difference in cardiovascular mortality (HR = 0.99, 95% CI: 0.62–1.60, P = 0.98), all-cause mortality (HR = 0.99, 95% CI: 0.82–1.20, P = 0.91), stroke (HR = 0.70, 95% CI: 0.44–1.11, P = 0.13) or fatal/non-fatal myocardial infarction (HR = 0.83, 95% CI: 0.40–1.72, P = 0.62) was achieved.

The Canadian Cardiovascular Society revised its clinical guidelines[11] in 2011 incorporating these current findings about the lack of clinical benefit in diabetic patients for primary prevention of CV events. Their recommendations are as follows:

- ASA is not recommended for primary prevention of vascular ischemic events in diabetic patients
- In diabetics >40 years old and at low risk for bleeding, low-dose ASA may be considered in patients with other CV risk factors for which its benefits are established

The general consensus from the American Diabetes Association guideline[12] is that diabetic patients who are at high risk (a 10-year risk score of >10%) of a CV event should receive ASA for primary prevention. If the patient is at intermediate risk (5-10%), individual risk factors for CV disease should be evaluated and <5% risk, ASA therapy is not warranted.

To rationalize these recommendations, a patient who has just been diagnosed with diabetes who is otherwise healthy and with few cardiovascular risk factors does not require aspirin therapy for primary prevention. An older individual with dyslipidemia, hypertension and a family history of cardiovascular disease with a new diagnosis of type II diabetes would qualify for aspirin therapy due to their combined risk factors. Patients who fall somewhere in-between are a clinical grey-area and it will be up to the health care team to weigh the risk of bleeding with potential clinical benefits.

Conclusion

In conclusion, more clinical research is required to provide a definitive answer to the clinical controversies posed above. As health care professionals, it is our responsibility to critically appraise the available scientific evidence and provide our own viewpoints. We should always consider the individual characteristics of the patient and determine how well they are represented by studies that support clinical guidelines. It is with these clinical skills that we can provide the best care.

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There is an alternative strategy that provides income that is guaranteed for life and upon death, pays your originally invested capital to your beneficiaries directly, without the usual estate-related hassles and costs. The Insured Annuity strategy can preserve the value of your estate, minimize income taxes and most importantly, guarantee an income stream for the rest of your life.

Enhance Your Retirement Income

The Insured Annuity strategy involves the purchase of two contracts: a permanent life insurance policy and a prescribed Life Annuity. You designate a portion of your non-registered capital to be used to generate a guaranteed income with which you purchase a Life annuity. This usually produces a higher income than typical fixed income investments and ensures a guaranteed income that you and/or your spouse cannot outlive. With a Life Annuity, each payment is actually a blend of interest and your original capital, where only the interest portion is taxable. As a result, there is no residual value for your estate when you die.

Leave a Legacy

To solve this, part of the annuity payment is used to pay the life insurance premium. At death, the annuity income ceases and the life insurance death benefit is paid to your beneficiaries to replace the capital originally invested in the annuity. Because of the special tax treatment afforded by the annuity and the life insurance policy, the after-tax return on the Insured Annuity concept may be significantly greater than can be found on conventional interest-bearing investments.

An Example

The following example shows how a 60-year-old couple can benefit the Insured Annuity strategy compared to a GIC. They are generous grandparents of three who are looking to maximize their income now that they are retired. They also wish to fund their grandchildren's education. The Insured Annuity strategy allows the couple to increase their monthly cash flow and still maintain the size of their estate.

How the Insured Annuity Strategy Works

GIC at 4%	Monthly Income	Insured Annuity
$500,000	Capital Investment*	$500,000
$1,667	Cash Flow	$2,431
$1,667	Taxable Income	$948
$667	Taxes Payable at 40% Rate	$379
N/A	Insurance Premiums	$446
$1,000	**Net Income**	**$1,606**

* Annuity payments will not cover initial premium requirements. Assumes 60 year old couple, non-smoking. Rates will vary.

As illustrated, the couple would apply for $500,000 of Term-to-100 insurance and once the insurance is in place, they would buy a $500,000 life annuity to generate income. They would then receive the difference between the monthly cash flow from the annuity and the monthly premiums being withdrawn for the insurance, while still maintaining the full value of their estate. Upon the death of the last surviving spouse, the annuity income ceases and the life insurance proceeds are paid out to the couple's beneficiaries without passing through probate.

Things to Consider

This strategy is suitable for those who are between the ages of 60 and 85, risk-adverse, dissatisfied with currently low interest rates, and in good health (to qualify for life insurance).

Once the annuity is purchased you cannot cancel the contract – it is locked in for life. This may represent a significant commitment, depending on your age. It also means that you should not consider moving all of your investment assets into the annuity just in case something unexpected should occur that requires some of your investment capital. As well, annuity income is fixed so although interest rate levels may go up, the annuity income remains the same. However, the accumulated cash flow over the lifetime of the Life Annuity may be more than that of a GIC, even with increasing interest rates.

Summary

The Insured Annuity strategy can generate a guaranteed, lifetime net income that is typically much higher than what you can achieve with other fixed income vehicles. As well, by directing the capital to named beneficiaries, you can avoid unnecessary estate costs and delays.

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OPERATION: Pharmacy CIA – Consultants In Action

Location: Nationwide
Scope Note: At-a-Glance
Key Players: A Pharmacist Near You?

Key Findings

At this very moment, pharmacists across the country are engaged in fee-for-service consultations on a range of health issues from chronic disease and menopause to integrative and preventive medicine.

Preliminary findings indicate that this activity is trending upward, precipitated by the growing patient demand and pharmacists' willingness to identify and adopt innovative practice strategies.

Intelligence has been compiled and transmitted to "the Pharm".

TARA MALTMAN-JUST

Key Players

Eastern Canada

The Maritime provinces of Canada house a number of operatives.

Peter Ford, Ford's Apothecary, Moncton, NB. CodeName Pioneer. Consulting since 1994. Conducts 12-14 consults per day, four days per week. Obtains 40-45% of his patients from physician referrals. Specialty areas: Limitless, including autism, seizures, IBS, weight management and pain. His specialty services are covered by: WCB, Department of National Defense, Insurance Work for Lawyers - after having been deemed to be an "expert witness on pharmacology of opioids" by the Court of Queens Bench in New Brunswick.

Robin Ogilvie, Rockingham Pharmasave, Halifax, NS. Began conducting Basic and Advanced Medication Review services in 2011. Registered with the Pharmacists Association of Nova Scotia, as required, to conduct the advanced reviews. Contemplating smoking cessation consults. Target clientele: pharmacare recipients who have reached their co-payment maximum and other interested parties. Surveillance recorded him expressing approval that pharmacists are "starting to take advantage of the skills we've had all along".

Central Canada

From Ontario to the longitudinal and true centre of Canada, Winnipeg, pharmacist consultants can be found in a range of practice settings. Local informants have narrowed their spectrum to three of many consultants in action.

Kent MacLeod, Nutrichem Biomedical Clinic, Ottawa, ON. Consulting for 15 years. Conducts consultations full-time and is booked two-three months in advance. Specialty areas: Orthomolecular treatment of mental health disorders, nutritional optimization. Identifies iatrogenic causes of health problems. Special services: Founded a laboratory to measure different nutrient levels in the body. Also owns his own pharmacy and health clinic. Human intelligence affirms that he has been able to resolve patient problems of 10+ years within one-two visits.

Phil Hudson, Beechwood Wellness Pharmacy, Kitchener-Waterloo, ON. Consulting for 10 years, charging for 2 years. Specialty areas: Uses a physiologic approach to patient wellness, including pain management, women's health, mental health. Also conducts MedsCheck through the province. He now finds that his consultation services "allow for a higher level of interaction with both patients and physicians" and continues to be "astonished with the respect patients have when they come in".

Tara Maltman-Just, CinDen Integrative Health Services, Winnipeg, MB. CodeName Stevia. Consulting since 2009. Specialty areas: Integrative Medicine, including brain fitness, women's health, autoimmune disorders, stress management. Electronic surveillance has uncovered that her "focus is on treating the patient, and not the disease". She uses a comprehensive, metabolic approach to help each of her patients achieve a healthy, balanced lifestyle. Specialty services: public presentations and broad spectrum of testing, including in-office cholestech, INR and bioimpedance analysis.

Western Canada

Assets based in western Canada report substantial consultant pharmacist activity.

Brenda Yuzdepski, Medical Arts Pharmacy, Saskatoon, SK. Consulting for 8 years. Conducts consultations 3-4 days per week. Specialty areas: women's health, pain, ED and overall wellness, including diet, exercise and supplemental strategies. She has been a long-time advocate of thorough patient education, believing that pharmacist skills comprise medication knowledge, not just dispensing, and that "if we don't tell patients how to use their medications, we may become extinct". She puts this conviction into action treating her patients in a tailored approach "like peeling off the bad layers of an onion", realizing that "little suggestions can make a big difference" and that each patient is at a different stage.

Will Leung, Strathcona Prescription Centre, Edmonton, AB. CodeName Prescriber. Consulting for 5 years. Specialty areas: BHRT, travel, prescribing, injections. Although every Alberta pharmacist may prescribe for emergency/interim fills and dosage changes, Will possesses additional prescribing authority granted by the Alberta College of Pharmacists. Special services: vaccine and botox administration, authority to order patient labs.

Jason Wilhelm, Finlandia Pharmacy, Vancouver, BC. Consulting for 8 months. Specialty areas: BHRT, general health. Previously conducted Med Review Services. Specialty services: testing, including bone mineral density. Collaborates closely with other practitioners including a medical herbalist. Picked up chatter suggesting he previously "wasn't being challenged in a grocery store pharmacy, with time restrictions limiting involvement in patient care". Although he credits his years in this setting to valuable experience and honed skills, he can now "see the benefits and the positive change (he) is making for people" as he develops a different type of relationship with his loyal patients at his new pharmacy site.

Fees and Reimbursement

Disparities in coverage and degree of reimbursement for cognitive services persist. Despite the variance, pharmacists in each region are actively engaged in consultation services with successful results.

An overview of the fees are laid out. Specific practitioners' fees remain CLASSIFIED:

- $120 an hour, 30-minute follow-ups at $60
- $100 for issue-specific consultations, such as hormone replacement, $75 for travel consults, $30 for emergency fills.
- Fees began at hourly pharmacist wage, which was quickly followed by further increases
- $60 for bubble pack clients in homecare, covered by the province.
- $200 an hour, with regular follow-ups based on the fraction of time ($100 for 30 mins)
- $100 an hour, $60 for 30 minutes and provincial reimbursement for patients with at least 3 medications or diabetes management ($50 for 20 mins and $25 for follow-ups)
- $250 an hour and follow-ups as needed
- $150 for an Advanced Medication Review or $52.50 for a Basic Medication Review service. These require about 1½ hours and 20-30 minutes, respectively, and are covered by the province. If the patient has not yet met their co-pay, the patient will pick-up one-third of the cost with the remainder billable to the provincial plan.
- $150 for 1 h and $75 and $40 for 30-minute and 15-minute follow-ups.

Although Phil first exhibited reticence to charge for cognitive services, he overcame this obstacle finding 80% of patients were asking 'how much do I owe you?".

Kent began charging early-on, with his patients willing to invest so that he "could spend the time needed to do it right".

A message encoded from Brenda suggests that "people are more likely to follow-up on your advice when they invest in obtaining it".

Robin has discovered that it can be "hard for patients to see the value in paying for services we've offered for free for so long". Nonetheless, he has no dispute when it comes to the impacts of consultation services for patients and pharmacists alike, saying "it's a clear win for job satisfaction".

Challenges

The Supercomputer has identified a number of critical obstacles to overcome:

- Time distribution and scheduling issues for staff consulting part-time
- Documentation of consults and correspondence with doctors
- Pharmacist confidence
- Having prescriptive authority yet no coverage for cognitive services
- Patient willingness to pay
- Consulting space
- Monitoring outcomes and booking follow-up consultations
- Provincial coverage for cognitive services is not sufficient to cover pharmacy costs
- Explaining services to other healthcare practitioners, including pharmacists
- Reasonable fees reduced because of limits by competition

Consulting with patients can be both rewarding and challenging. In the area of wellness consultation, Brenda admits "I have to practice what I preach". Undercover ops have confirmed she is doing just that.

An early communique from Phil cites that at his pharmacy "all consult documents are scanned electronically, uses a pseudoDIN on the patient's file", working also toward systematic approaches to remind patients to book follow-ups.

With an expanded scope of practice, Will demonstrates his intensive training while "understanding limitations and referring if necessary".

Peter has employed a secretary that records notes from dictation, also preparing letters to doctors as needed.

Kent operates out of his private clinic, with reception and a waiting room.

Jason reported to "the Pharm" that "We have the knowledge. Anything new has apprehension. Once you gain consulting experience and confidence, it becomes easier to do".

Future

In the future according to Will's intelligence, consultations will be "the mainstay of our practice, as technicians will take on distribution to a much greater capacity. Pharmacists need to adapt to utilize their cognitive abilities or risk being left behind."

A common attribute among may pharmacists, Peter is a lifelong learner who continues to "seek and absorb new information every day". Signal intelligence recorded the statement "I love working" on several accounts. It is highly

probable that Peter will continue to expand his already esteemed practice.

In document *MSP Communication Jul/Aug/Sep 2011 A Consultation Program - Making it Work*, Tara Maltman-Just encrypted this message: “One stirring quote I noted recently from a patient was ‘Thank-you. I've been waiting for someone to help me this way for decades’. As more of us continue to take on a consultative role, I am confident that fewer patients will be left waiting.” She emphasizes that “the patient response and gratitude have been like nothing else I have seen in my years of practice.”

Key player Kent MacLeod was intercepted stating that “I now book my life around my consults” and provide a quality of care that one “can’t achieve at the end of the counter”. Upon interrogation, he quickly admitted that “once you consult, you can’t go back”.

Conclusion

Activities of Pharmacist Consultants are now documented nationwide. These pharmacists are requesting reimbursement ranging from $100 to $250 an hour for what their patients are acknowledging is a worthy investment. In several regions, there is government sponsorship echoing the value.

Considering the achievements outlined in this investigation, it is suspected that many more pharmacists could effectively offer consultation services. The rationale for why there are not more pharmacist consultants in action has not been clearly elucidated.

Future analyses are required to ascertain the true prevalence of pharmacists providing cognitive services in Canada, as foreign informants continue to report progress in the U.S.

It is anticipated that the network of Pharmacist Consultants In Action, active on Facebook, may provide further insight into current practices. It will be monitored for increased traffic and new members, to determine whether its mandate of ‘enhancing patient lives, advancing the profession’ is implemented in the next 6 months and years to come.

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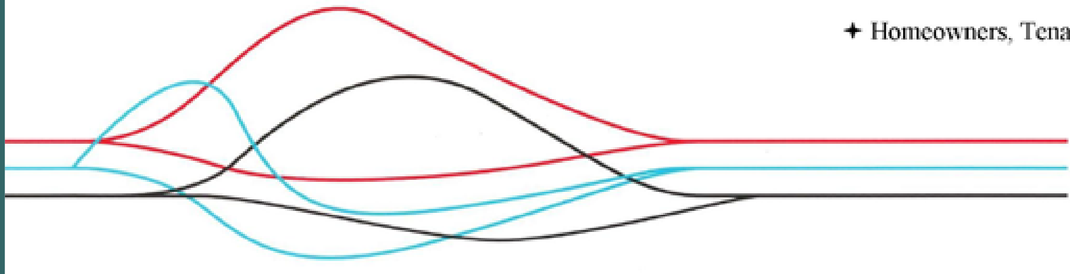

The Decline Effect: Is it the Research that Makes Drugs Work?

A few weeks ago, while I was suffering from a torn bit inside my knee, my physician prescribed a drug which, as expected, reduced swelling but produced unpleasant gastric side effects. I obeyed my doctor's instruction to discontinue the drug and, in due course, nature got my knee to behaving as its former self.

The experience made me ask the question – how do the good effects get through to outweigh the bad? In that quest one finds the "decline effect," the name given to the phenomenon that a drug or a process may appear efficacious in early trials and get splendid reviews in scientific journals. But after a time on the market, its usefulness seems to wither. It is not just a problem in medicine and pharmacy.

In 1991, a Danish zoologist, Anders Moller at Sweden's Uppsala University, discovered that female barn swallows prefer males with strongly symmetrical anatomies. This was more than just an avian fashion insight, for body conformity or symmetry is a genetic trend that can be readily observed. Early parallel studies confirmed the behaviour. Then, three years later, fewer studies confirmed it. Either swallows were having a change of taste or the theory was wrong. Swallows don't read bird versions of *Vogue*. So the question became one of how a respected researcher could come up with what appears to have been a weak theory of avian sexual selection.

There are other criteria in sexual selection in birds including song, the refinement of males' bowers of some species that make complex nests for their intended mates and more. But the essence of swallow study was that in years following the breakthrough, symmetry lost its force in predicting which boy birds got the girls. It seems that the power of the idea that symmetry, easily observed and genetically transmissible, was so appealing that conflicting data in other studies and other populations fell by the academic wayside.

Other studies that present forceful results, especially in biological sciences, can have results influenced by such factors as sample size, publication bias, colleague bias, grant bias, test response bias, study construction bias, research funding bias, wishful thinking and, finally, a problem in the theory of knowledge – that truth can elude proof and proof does not necessarily indicate truth.

In drug testing, there is a bias in sample size. Thus if a new drug is tested in a group of, say, 5,000 people and seems to work well without side effects that occur in one in 50,000 people, the initial tests may not catch the problem. Once on the market, the problems appear. Sample size not only biases results, but dilutes them as well. Thus abnormalities that may be seen in a sample of a few hundred people or, for that matter, birds or floor planks will be perhaps more or less evident as the sample size grows. The process of normalization underlies regression to the mean. Exceptions disappear and early results or indications in the restricted population subside.

Publication bias takes place when a bright idea is confirmed by parallel studies by reputable researchers. Numerous studies of this trend show that researchers who confirm a fresh idea or refine it have a better chance of getting their work published than those who cannot confirm it. If an idea becomes accepted in the general theory of a profession or a discipline, then contrary studies will find resistance among editors who are, for the most part, part of the establishment of the profession whose research they publish. It has been called the Galileo Effect as well, in honour of the astronomer forced on pain of execution and excommunication to recant his idea that planets rotate around the sun. On a lower level of morality and mortality, academic and industrial researchers tend to find that confirming and enhancing what is known and already grant-supported is professionally safer than seeming to be a heretic or an apostate.

Grant bias arises in the collegial system. It is mutual back scratching elevated to a financial process. Thus the number of names appearing as authors of scientific papers grows to sports team proportions. The idea is perhaps that a quorum of learned folk has more potential for truth or insight than a single person. It also adds to the momentum for further research. It is consensus for financial advantage. It also means that those who would gore the authors' scientific goat are up against a gang who want to protect it.

Test bias response is distinctive in drug testing. For many drugs, there are repeat test subjects. They learn the ropes; know what to say to researchers to get rehired and, most of all, they are able to discern real drugs from placebos. When they get the genuine thing, they often have side effects. The placebos have no side effects. The test subjects can use their acquired sense of who is getting what to tell researchers what they want to know. Thus acquired knowledge of the testing process can defeat even double blind test protocols. Drug toxicity can itself overcome test subjects' acquired knowledge; yet for many compounds that treat everyday dilemmas, especially mild psychological problems, acquired subject insight can bias results.

Study construction bias is embedded in statistical standards and the initial belief that a distribution of effects will follow the normal or Gaussian bell curve. The idea that "normality" is intrinsic in biological processes implies that if something works in 95% of cases observed, its hypothesis is validated, is a restatement of the form of the curve. In financial markets, which are influenced by greed and fear and the choice of when to start and stop a measurement, skew is normal and Gaussian normality is abnormal. But the tendency for researchers and those who pay for research to prefer well behaved studies with "normal" results tends to exclude valid studies that fail to confirm and conform to the notion of normal distributions. In a polar case, one in which a curve is heavily skewed left or right with incidents occurring in significant numbers long after the assumed first few standard deviations of a test have been observed, the test results will be invalid. Tests of lifetime exposure to toxic substances among people of differing sensitivities inevitably embody this problem of skews and long tails.

Research funding bias is obvious. Drug companies want to produce efficacious drugs that have either little harm or perhaps risk of harm in proportion to expected benefits. The list of drugs that help mankind is long and the purpose of drug makers in wanting to generate sales commensurate with benefit need not be contested.

Funding of research in various phases of drug research is intended to measure the good a substance will do and to test for harm. But the phenomenon of label creep enters the equation of harm vs. benefit when drug makers attempt to generate off label uses for drugs with what are initially narrow applications. Label creep adds to exposure of potentially untested uses and among less well understood groups. The problems of regression to the mean come into play. So the drug that did well in one application for an intended use becomes less efficacious in other applications.

Wishful thinking is a test bias too. Studies of the value of population screenings, beg the question of what level of rarity of finding a condition – prostate cancer, malignant lumps in breasts, thyroid tumours, etc. – justify the costs of treatment and, even more the costs of needless treatment of false positive results. The calculation that a life saved justifies a cost of perhaps $100,000 per finding of pathology may be valid but not persuasive. That the tests may not be efficacious then causes the decline effect.

Finally, there is the problem of knowledge itself. As science writer Jonathan Schooler showed in an article in the Dec. 10, 2010 issue of the *New Yorker*, ideas that gain a following are difficult to disprove. The "slipperiness of empiricism," as he called it, allows ideas that are not true to continue to be regarded as valid because it is hard for their holders to let them go. The decline effect, which has its roots in colleagues' friendships and the prestige of professional journals, wishful thinking and statistical methodology, ultimately comes down to the problem that a thing that can be proven is not necessarily true and what is true cannot always be proven.

Q&A: GETTING TO KNOW YOUR MANITOBA PHARMACISTS

Name: **John Cormier**

Place/Year of Graduation: University of Manitoba, 1980

Years in Practice: Thirty years

Currently Working: Currently, I'm pharmacy manager for Wal-Mart in Dauphin. I'm studying and working to try and pass a diabetes educator exam this coming spring. I've been returned by the members for a second term on MPhA's council where I'm currently sitting as VP on the executive committee. I'm on the discipline committee. Council has allowed me the privilege of chairing the governance committee for MPhA as well as being our liaison person with NAPRA. I'm also serving as liaison to the new MSP Public Relations Committee.

Accomplishments in pharmacy: I haven't caused anyone any harm to the best of my knowledge. I believe I improve patient health outcomes.

Family: I have my wife Robynne who amazes me with her kindness and good humor, and after thirty years still gives me a thrill when I see her. Also, I have my stepson Lee who got a good dose of kindness from his mom and has grown to be a fine young man.

Hobbies: Macro photography and visible light microphotography. RC helicopters. Diesel engines. Obsolete night vision devices.

Community activities: Funding for charities. Helping my wife with the Parkland Humane Society.

Favorite thing about Manitoba: I enjoy the changing landscape when travelling around Manitoba throughout the seasons. Particularly the gorgeous moon light winter landscapes in Riding Mountain Park.

Most relaxing vacation choice: On a few occasions I've been able to travel to Finland to my brother's herbal farm and manufacturing facility. I love working at his facility. It is like being back in the manufacturing lab 30 years ago but with many more really interesting machines to operate.

Pet peeves: Paying top dollar for mediocre service or goods.

Favorite fictional character and why: Tyrion in the George RR Martin series of novels is my latest favorite. He survives immense hardship and abuse with humanity and a ribald sense of humor.

What could you do without forever: Cruelty and indifference.

What couldn't you do without for even a day: I just don't know.

What you love about pharmacy: I still love the moment of discovery you get from people when teaching rather than just counseling. But I really love learning from and interacting with the wonderfully diverse people I meet on council and doing liaison work. More people should try it. It can be very rewarding.

Do you know someone who is making a difference in the pharmacy community? We would like to highlight them in this article! Please contact the MSP office at (204) 956-6681 or info@msp.mb.ca.

Oguzhan Ozturk
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