

March 2021

Issue 48

Inside this issue:

- 2 President's Message
- 3 Members Celebrating 25 Years with CSHP
- 5 Scientific Sessions
- 7 Call for Residency Project Preceptors & Advocacy Updates
- 8 Faculty Update
- 9 Short & Snappy Clinical Overviews
- 12 Future Professional Pharmacy Student Award Winner
- 13 Pharmacy Appreciation Month
- 14 Save the Date: CSHP AB Event

**THANK YOU
PHARMACY** ❤️

Follow us on Facebook, Twitter, and Instagram!

www.facebook.com/cshpab

www.twitter.com/cshp_ab

www.instagram.com/cshp_ab



President's Message



In trying times such as these, it's really important to acknowledge and appreciate what we have. And this month, it's an opportunity to appreciate our profession. This year, [PAM](#) has changed from Pharmacy Awareness to Pharmacy Appreciation. Pharmacists have been a key part of the COVID-19 response and their contributions have been invaluable for patient care. This month is an opportunity to say #ThankYouPharmacy for everything we do! For me, I'm super appreciative for the amazing team we have on the CSHP Alberta Branch Council! They are doing some great things and I couldn't be prouder of them.

Here are some highlights of what they're doing:

- Banff Seminar is joining forces with PPC (Professional Practice Conference - CSHP National's yearly conference) and Harrison (CSHP's pharmacy management seminar). This conference, "[TOGETHER - Canada's Hospital Pharmacy Conference](#)," will be held online over the course of a week, offering live and recorded sessions, networking events, and workshops.
- You will have seen a request to complete a survey to see how we (the Alberta Branch) can improve! We will be using these results to help us decide where we should focus our efforts and what we should offer as a branch.
- In February, our Education committee put together an amazing online educational symposium in the evening. The first session, sponsored by Novartis, covered heart failure management, while the second session discussed the social determinants of health related to COVID. If you missed this, our Communications team is working on posting these sessions on a members-only webpage for you to access!
- If you have taken a look at our newsletters recently, you will have noticed we have some excellent articles created by our Research committee. They have been creating nice summaries on a variety of topics, including COVID treatments and late breaking clinical trials.
- Have you noticed our increased presence on social media? Our Communications team has really amped it up this year by keeping us up to date and connected.
- And of course, because it's Pharmacy Appreciation Month, our PAM team has been working hard on different initiatives to show our appreciation to you, the members! Stay tuned for more details.

I hope that all of you find pride in our profession and how you've contributed to our healthcare system during this unprecedented year. Let's appreciate what we have come to be and the bright future we have ahead.

Lesley Beique

President, Internal Portfolio
CSHP Alberta Branch
Lesley.beique@ahs.ca

Cheers to 25 years!

- Barbara Angel**
- Val Fong**
- Ian Hamilton**
- Christine Hughes**
- Cindy Jones**
- Catherine Lyder**
- Tania Mysak**
- Geoffrey Norris**
- Darren Pasay**
- Cheryl Sadowski**
- Karla Simard**
- Ann Thompson**
- Dianne Veniot**



What does the *milestone* mean to you?

A CSHP membership means being able to contact and communicate with experienced pharmacists which I've found very helpful for the last 25 years. I also appreciate the Canadian Journal of Hospital Pharmacy for its contributions to evidence-based medicine; and CSHP Guidelines for standardizing practice, especially for Drug Information, which has been my specialty for over a decade. ~ **Barb Angel**



These were peers who were addressing clinical issues, and it was my first insight into navigating the grey areas of practice, advocacy, and networking. I have since found this a welcome professional home. Despite many moves and different branch memberships over the years, I have found that CSHP has always maintained a strong emphasis on professional development, advocacy, and the best guidance and policy for hospital pharmacists. ~ **Cheryl Sadowski**

Congratulations!



CSHP has been a source of inspiration and a second professional home for my entire career as a pharmacist. The learning and networking opportunities over all these years (!) have been phenomenal, and made me a better clinician and leader. ~**Tania Mysak**

CSHP has provided me with many great professional and personal memories. I was fortunate to have met and worked alongside many great colleagues across Alberta and other provinces and had the honor of being able to serve as a Chapter Chair, Branch President, National Branch Delegate and Banff Seminar planning committee member. CSHP offers incredible opportunities, whether it be on a committee, council position or attending an educational event. I strongly recommend getting involved with CSHP, it's an amazing organization driven by volunteer members like us that advocate, support and guide our profession. Most of all, you know you are going to meet some great colleagues and friends along the way. Thank you CSHP for a great 25 years!

~ **Val Fong**



My professional involvement with CSHP and CSHP members are some of the most rewarding experiences of my career. CSHP has played a critical role in my career supporting and advancing education, practice, and research. ~ **Christine Hughes**

CSHP AB Scientific Sessions

In the era of social media, circulating newly published papers allows for greater exposure and can lead to an increased number of citations for papers over time. The CSHP AB Research Committee will be highlighting various articles published by our Branch members over the next year. Click the coloured heading to be directed to the article!

If you are aware of any recent publications or contributed to a published piece, please send the articles to:
cshpabresearch@gmail.com

Retrospective Review of **Prescribing Patterns** in Cancer-Associated Thrombosis:

A Single Center Experience in Edmonton, Alberta

Cancer-associated thrombosis: Do we dare to DOAC? With the publication of the landmark Hokusai-VTE trial, DOAC use continues to increase over time. Check out this review by AB members **Hannah Kaliel, Meghan Mior & Steven Quan.**



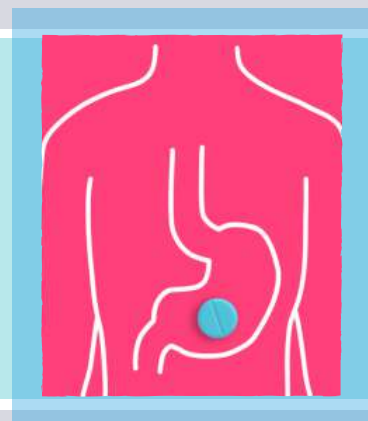
Warfarin **Re-initiation** After Intracranial Hemorrhage: A Case Series of Heart Valve Patients

Clot For Thought: what is the optimal time to reinstitute antithrombotic therapy following an intracranial hemorrhage? **Mathew Hodgson** and colleagues describe a 13-patient case series including time to resumption of warfarin, possible changes to INR targets and whether this correlates to specific types of bleeds.

Clinical Pharmacokinetic and Pharmacodynamic Considerations in Treating **Non-Hodgkin Lymphoma**

The ADMEs of Non-Hodgkin Lymphoma

Jennifer Jupp and **Nikki Blosser** provide a comprehensive overview of the pharmacokinetic and pharmacodynamic factors when caring for patients with Non-Hodgkin Lymphoma.



Oral **Sodium Bicarbonate** Protocol for High-Dose Methotrexate Urine Alkalinization:

A Pediatric Experience

BYE-carb: what are the alternatives?

With the shortage of IV sodium bicarbonate, **Jennifer Jupp, Mark Diachinsky, Krista McKinnon** and colleagues adopted a regimen using oral sodium bicarbonate for urine alkalinization. See how this protocol compares to IV.

CSHP AB Scientific Sessions Continued

Vancomycin Area Under the Curve to Minimum Inhibitory Concentration Ratio Predicting Clinical Outcome:

A Systematic Review and Meta-analysis with Pooled Sensitivity and Specificity

How well does vancomycin's AUC:MIC predict clinical outcomes like cure or mortality? **Bruce Dalton, Irina Rajakumar, Ashten Langevin, Christine Ondro, Deana Sabuda & Deonne Dersh-Mills** present the results of their meta-analysis and systematic review.

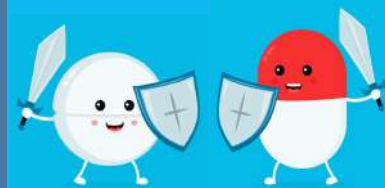


Clinical Pharmacist Services on Admission to a Large Correctional Center

Learn more about the unique role of clinical pharmacists working in a correctional facility. This retrospective chart review by **Ashwin Bhat, Mary Gunther & Kim Taube** focuses on the timeliness (patient assessments within 48 hours of admission) and the types of interventions made by pharmacists at the Edmonton Remand Center.

Association of **Ticagrelor vs Clopidogrel** With Major Adverse Coronary Events in Patients With Acute Coronary Syndrome Undergoing Percutaneous Coronary Intervention

Which P2Y12 inhibitor performs better in reducing major adverse coronary events in patients undergoing PCI for ACS - ticagrelor or clopidogrel? How do they compare for adverse events such as bleeding or dyspnea? Read this population-based cohort study by **Sheri Koshman** to find out.



Clopidogrel vs. Ticagrelor



Actual Body Weight Dosing of **Temozolomide** and Overall Survival in Patients with Glioblastoma

Do higher doses of temozolomide (based on actual weight) result in better overall survival than using lower doses (based on ideal body weight)? A five-year retrospective chart review by **Frances Folkman & Deonne Dersch-Mills** addresses this question and whether or not toxicity associated with higher doses leads to dose reductions, treatment delays or discontinuations.

Call for Residency Project Preceptors

The AHS Pharmacy Services Residency Program is calling for all potential residency research projects/preceptors for the 2021-22 residents, including Year 1 General Residency and Year 2 Specialty Residencies in Infectious Diseases or Cardiology.

Please see the [call for offer](#) with details regarding the process, timelines, etc. and a link to submit your project idea electronically. The deadline for initial project submissions is **April 21, 2021**.



Thanks in advance and we look forward to hearing from you!

Sheri Koshman, Deonne Dersch-Mills, and Tammy Bungard
Residency Research Advisors

Advocacy Update

Drug Shortages

As part of CSHP's ongoing response to the FDA proposal to permit importation of prescription drugs from Canada, Christina Adams, Chief Pharmacy Officer of CSHP, [testified](#) before the North Dakota state legislature in an effort to protect Canadian patients from worsening [drug shortages](#).

Supporting Hospital Pharmacists in Managing Cannabis for Hospitalized Patients

CSHP has developed a [Position Statement on Cannabis for the Hospitalized Patient](#) as well as a [Best Practices Document](#) to provide pharmacists with essential tools to appropriately care for patients who use cannabis at home. Key points that are highlighted include: ethical considerations, management of withdrawal symptoms, contraindications, drug interactions, and patient education and counselling tips.

The Weird & Wonderful

Have you had a patient with inherited retinal degenerations (IRDs)? Depending on the disease-causing mutation, you may also see one of the first gene therapies approved for autosomal IRD called Luxturna®.

CSHP National has recently launched a new series called 'Weird and Wonderful', which features unique conditions that you may encounter in your practice. The articles are featured in Interactions: News from CSHP.

Check out the latest article [HERE!](#)





Faculty Update

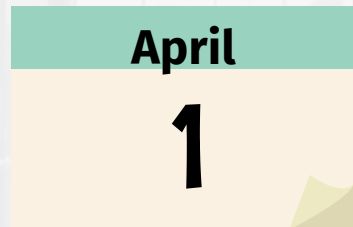


Welcome Class of 2024!

The Faculty of Pharmacy and Pharmaceutical Sciences held its annual White Coat Ceremony on January 21st. This was the first virtual event which welcomed 136 first year students into the profession. They also celebrated current students as they received awards for academic accolades!



The Faculty of Pharmacy and Pharmaceutical Sciences continues to teach remotely, with ALL classes and labs being delivered in an online, virtual format.



CSHP Alberta Branch will be hosting a residency information session for prospective applicants on April 1st. Don't forget to check out the CSHP AB Student Committee instagram ([@cshp_studentsab](https://www.instagram.com/cshp_studentsab)) page to keep up to date with events!

short & snappy

-A CLINICAL OVERVIEW

Is there a BONE-us with zoledronic acid compared to pamidronate in reducing skeletal-related events (SREs)?

Sabrina Lorico, PharmD
Pharmacy Resident, Central Zone

Background:

- Bone metastases can drastically impact a patient’s quality of life by causing SREs, including hypercalcemia, spinal cord compression, and pathologic fractures [1]
- Bisphosphonates are used as adjunctive agents to manage pain due to bone metastases by decreasing bone turnover, resorption, and osteoclast produced pain mediators [2,3]
- Zoledronic acid is 100-1000x the potency of pamidronate in pre-clinical models and it is associated with decreased infusion times but an increased cost [4-6]
- **Clinical Question:** In adult patients with bone metastases due to breast cancer (CA), is zoledronic acid (ZA) more effective than pamidronate in reducing SREs?

Review of the literature:

Study Author (study type, year)	Patient Intervention Control	Primary Outcome Result	Critical Appraisal
Rosen (retrospective cohort, 2003) ²	P Stage 4 breast CA with at least 1 osteolytic lesion I ZA 4mg IV every 3 to 4 weeks for 12 months C Pamidronate 90mg IV every 3 to 4 weeks for 12 months	1°: Proportion of patients who experienced at least 1 SRE during the 13 month study period Result: ZA was not non-inferior to pamidronate for the primary outcome	Secondary analysis of existing data: Difficult to draw conclusions from the study Did not achieve pre-determined power: ↑ risk of type 2 error Subgroup analysis defined post hoc
Jacobs (RCT, 2016) ¹	P Metastatic breast CA with bone metastases and received pamidronate for 3 months I Switch from pamidronate to ZA 4mg IV once every 4 weeks for 12 weeks C Continue pamidronate (on the previous dose) once every 4 weeks for 12 weeks	1°: Proportion of patients experiencing a ↓ in sCTx between the intervention and control groups Result: The sCTx ↓ between the two groups was not statistically significant	The clinical significance of sCTx ↓ is unclear Phase 2 trial: Establishes efficacy rather than effectiveness, small sample size Did not achieve pre-determined power: ↑ risk of type 2 error

²° outcomes are reported as significant; true therapeutic benefit cannot be extrapolated as these outcomes are primarily hypothesis generating

sCTx = serum C-telopeptide

Bottom Line:

In adult patients with bone metastases due to breast cancer, zoledronic acid **does not appear to be more effective** than pamidronate in reducing SREs secondary to bone metastases.

References can be found [here](#).

short & snappy

-A CLINICAL OVERVIEW

Perioperative Pain Management for Patients Stabilized on Buprenorphine-Naloxone

Lisa McIntosh, BSP
Pharmacy Resident, Central Zone

Background:

Buprenorphine-naloxone (BUP-NX) is the preferred first-line agent for opioid use disorder due to its superior safety profile. [2] BUP is a partial μ agonist. [3] It has high affinity and slow dissociation from the μ receptor, which limits the binding ability and activity of other opioids. [3] The partial agonist activity is responsible for a “ceiling of effect” at increased doses, which reduces the risk of respiratory depression, but also may limit analgesia. [3, 4] NX is a μ -antagonist with no effect if taken sublingually, but if taken by nasal or intravenous route, it can precipitate withdrawal of morphine or fentanyl, deterring abuse. [3]

Perioperative Pain Management Strategies	
1. Continue BUP-NX with adjunct pain management	
o	Continuing BUP-NX is supported by expert opinion, observational studies and case reports ^{1,5}
o	A systematic review, by Goel et al. (2019), found no evidence against continuing BUP perioperatively. ¹ Patients continued on BUP had equivalent perioperative pain control in observational studies reviewed ¹
o	Expert opinion suggests, if planned surgery, BUP can be tapered down to / maintained at 12 mg daily to allow for sufficient μ receptor availability for a full opioid to occupy and exert analgesia ⁵
o	Sublingual BUP provides analgesia for only 4-8 hours. ⁴ The total once daily dose of BUP-NX can be split to three to four times daily dosing to provide increased analgesic effect ⁶
o	Patient may require an add-on full μ opioid agonist at an increased dose to overcome BUP receptor occupation and provide additional pain relief ^{5,6}
	<ul style="list-style-type: none"> ▶ Hydromorphone is advantageous as it has the closest μ affinity to BUP⁷ ▶ Maximum to minimum μ affinity: sufentanyl>buprenorphine>hydromorphone> morphine>fentanyl>naloxone>methadone>oxycodone> codeine> tramadol
o	Considering harm reduction and patient specific factors are key. If individual risk of relapse exceeds the benefit of adjusting BUP dose or if urgent surgical intervention is required, home BUP dose can be continued. If possible, non-opioid adjuncts should be optimized i.e. acetaminophen, NMDA antagonists, NSAIDs, local anesthetics and regional anesthetics
2. Stop BUP-NX and replace with a full μ opioid (not recommended)	
o	Stopping BUP-NX and initiating full μ opioids increases the risk of accidental overdose and respiratory depression as well as patient opioid use relapse once discharged ⁵
o	Patient may require increased initial doses of a full μ opioid for pain control compared to an opioid-naïve patient ^{5,6} as BUP takes approximately 3 days to fully dissociate from μ receptors. ⁶ Over time, as less BUP occupy receptors, a reduced dose of full μ opioids is required. Frequent monitoring and adjustment of dosing is critical to prevent overdose/respiratory depression ⁸

Check out the Calgary Zone guidelines for [Acute Management of Patients on BUP!](#) .
+ Algorithm included!

Bottom line:

During a surgical admission, the risk of patient opioid use relapse must be considered for patients stabilized on buprenorphine-naloxone when determining the most appropriate approach to a patient’s pain management. Buprenorphine-naloxone can be continued perioperatively with adjunct measures in place.

short & snappy

-A CLINICAL OVERVIEW

Urea for Hyponatremia in Heart Failure

Peter Van Herk, PharmD
Pharmacy Resident, Calgary Zone

Case:

- 73M with HF sent to ED by GP due to hypoxia; Na 132 mmol/L, NT-proBNP 6683 ng/L
- Due to increasing doses of furosemide and metolazone, serum sodium dropped to 127 mmol/L

Clinical Question: In an elderly male with hypotonic hypervolemic hyponatremia secondary to heart failure, is urea effective for correcting hyponatremia?

+++ edema and Na < 135 mmol/L

What can induce free water loss without other electrolyte depletion?

Urea

Syntheses

Cochrane Library – systematic review on “interventions for chronic non-hypovolaemic hypotonic hyponatremia” did not include studies examining urea for hyponatremia in heart failure

Primary Literature

- No trials have been done to assess urea treatment for hyponatremia in heart failure; most of the evidence is in patients with SIADH. However, there are several case reports on urea for hyponatremia in heart failure [9-11]

Case Resolution:

- Serum Na increased from 127 to 130 mmol/L with urea 15mg BID x 2 days and 30mg BID x 2 days.

Medical History	Home Medications
• Biventricular Heart Failure (EF 35%)	• bisoprolol 2.5 mg PO daily
• Hypertension	• enalapril 5 mg PO daily
• CAD (MI in 1994)	• furosemide 40 mg PO QAM and 20 mg PO at 1600
• Dyslipidemia	• rosuvastatin 20 mg PO daily
• Atrial fibrillation	• dabigatran 110 mg PO BID
• Hypothyroidism	• levothyroxine 75 mcg PO daily
• Anemia	• ferrous gluconate 300 mg PO BID
• Osteoporosis	• alendronate 70 mg PO weekly
	• vitamin D 1000 IU PO daily

Summaries:

Guidelines	Recommendation
CCS Heart Failure ¹	No recommendation or mention of urea as a treatment option for hyponatremia 2° to heart failure
ESC Heart Failure ²	
ACCF/AHA Heart Failure ³	
European Hyponatremia ⁴	
American Hyponatremia ⁵	

Summary of Case Reports:[9-11]

Case	Urea (g/day)	Days of treatment	Serum Na change (mmol/L)
1	60	5	107 -> 133
2	30	4	125 -> 135
3	30	4	116 -> 138
4	30	3	125 -> 131
5	30	4	125 -> 138
6	30	5	126 -> 143
7	30	7	120 -> 135

Bottom line:

The use of urea for hyponatremia in heart failure is limited to data published in case reports. Urea tablets may be an option in refractory cases. Ensure serum sodium and fluid status is monitored.

C E L E B R A T I N G :

Future Professional Pharmacy Student Award



Igor Zoric

It is difficult to put this feeling into words! I am honoured to be the recipient of the CSHP Future Pharmacy Student Award for displaying student professionalism.

To be viewed as a future leader in the profession of pharmacy this early in my professional experiences is empowering. Thank you, CSHP Awards Committee! I am very sure that every nominee for this award has displayed, if not more, student leadership and proven commitment to promoting the profession of pharmacy.

This occasion to celebrate is only possible because I have had, and continue to have, the prospect to partake in the educational, networking, and professional opportunities provided by the CSHP. I hope to continue my involvement with the CSHP by advocating for and engaging in succession planning with budding pharmacy students that practice in hospital and other healthcare-related settings.

Thank you to all my mentors and the University of Alberta for supporting my ongoing commitments to public health projects and clinical work.

Pharmacy Appreciation Month

**THANK YOU
PHARMACY** ❤️

MARCH 2021

#PAM2021

Hello CSHP Alberta Branch Members,

As you may have already seen, **Pharmacy Awareness Month**, the annual national campaign that highlights all things pharmacy, is moving from 'Awareness' to 'Appreciation,' a fitting name to shine the spotlight and celebrate the extraordinary role that the pharmacy team plays in health care, especially during the COVID-19 pandemic. This year, the hashtag #PAM2021 campaign will strive to celebrate the profession's history and highlight its efforts as we move forward into the next stages on the front line of the pandemic.

Join us this March to say #ThankYouPharmacy as we come together as one to celebrate the hospital pharmacy community during "Pharmacy Appreciation Month 2021!" Check out the CSHP Alberta Branch social media accounts on Facebook, Twitter, and Instagram throughout the month of March, as we will be sharing some stories from pharmacy staff fighting the pandemic from the front lines. In addition, keep an eye out for some fun facts about pharmacy that you can share with your friends and join us for a virtual scavenger hunt open to all March 1-31, 2021 at <http://bit.ly/ABPAM21> (feel free to share the link with everyone!)

Follow us on:

Facebook: [@cshpab](#)

Instagram: [@cshp_ab](#)

Twitter: [@cshp_ab](#)

Remember to stay safe and spread awareness, not germs.
#PAM2021

Courtesy of your 2021 Pharmacy Appreciation Month Committee

Canadian Society of
Hospital Pharmacists
Alberta Branch



Société canadienne des
pharmaciens d'hôpitaux

Canadian Society of
Hospital Pharmacists



Société canadienne des
pharmaciens d'hôpitaux

The NEXT CSHP AB Branch Online Education Event

May 13 2021
6:30pm MST

Save the Date!

Follow us on Facebook, Twitter, and Instagram!

www.facebook.com/cshpab

www.twitter.com/cshp_ab

www.instagram.com/cshp_ab

