INPHARMATION UPDATE

Canadian Society of Hospital Pharmacists Alberta Branch



Société canadienne des pharmaciens d'hôpitaux



May 2023 Issue 61

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News from CSHP National



Executive for the 2022/2023 Year

President Elect – Ashley Walus (Manitoba)
President – Sean Spina (British Columbia)
Past President - Zac Dumont (Saskatchewan)
Treasurer – Megan Riordan (Ontario)
CEO – Jody Ciufo

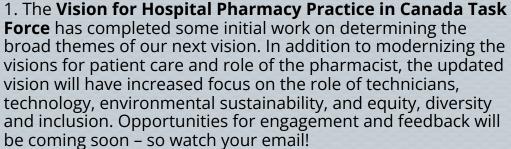
CSHP CPO Search

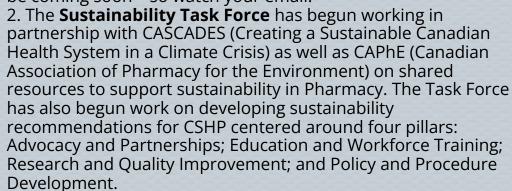
CSHP's inaugural Chief Pharmacy Officer, Christina Cella, is stepping down at the end of April after nearly four years in the job. Her contributions have been greatly appreciated, and we wish her well as she moves into the next chapter of her career! Recruitment for her replacement is currently underway.



CSHP National Task Forces

Two task forces were struck at the January board meetings to address high priority initiatives for CSHP. Both groups have begun work on their mandates







Mary Gunther CSHP Branch Delegate - Alberta mary.gunther@ahs.ca

Together:

Canada's Hospital Pharmacy Conference 2023 Recap



Together 2023, live from Banff, was a great success! More than 400 pharmacy technicians, pharmacists, students, residents, and pharmacy leaders gathered from across the nation for an outstanding educational event. The hybrid platform allowed another 300+ to join online. The Banff Centre provided a beautiful setting which was especially impressive for our eastern Canadian colleagues joining us for the first time.

The Banff Seminar chairs are grateful for the hard work and dedication of our volunteers who made this event possible. Our education committee, led by Amanda Leong, along with Andrea Tang and Belinda Fuchs, worked extremely hard to ensure programming that was diverse, timely, and relevant. Their efforts are greatly appreciated, and the results were outstanding!

Friday morning kicked off with our first ever pre-conference SIM lab. This provided a high fidelity setting where attendees practiced their skills, improved their knowledge, and gained confidence managing toxicology presentations. We hope to build on this success in the coming years at the Banff Seminar!

(Continued on the next page...)

Canada's Hospital Pharmacy Conference 2023 Recap

We enjoyed 3 concurrent streams with pathways strategically planned for pharmacy technicians, pharmacists, and leaders. There was truly something for everyone. Additionally, we enjoyed a tremendous line up of keynote speakers.

Dr. Paul Walker, president of the American Society of Hospital Pharmacy, opened the conference Friday afternoon with a thought-provoking and inspiring talk. He emphasized that we are better together and diversity matters.

Dr. Glaucomflecken provided a highly entertaining talk Saturday morning to get everyone energized. He expertly combined his brilliant wit and humour with a profound and impactful message about survivor trauma and the importance of family centered care.

Dr. Fiona Miller and the climate change panel inspired us to take action within our hospital pharmacies and to prioritize sustainability to help safeguard our planet.

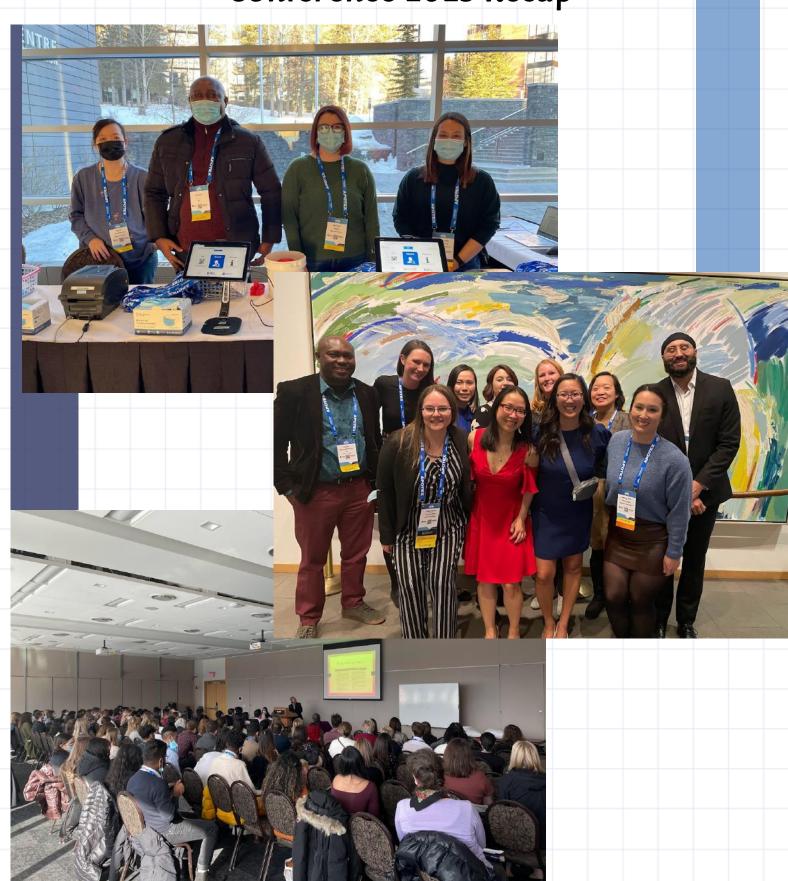
Finally, Amanda Jette Knox closed the conference Sunday afternoon with their authentic, heart-wrenching, and emotional story of self-discovery and love for those around you.

For the Banff Seminar regulars - this was certainly a conference like we've never seen before! From the impressive speaker line up, to the hybrid technology, and a memorable after party Saturday night, it was one to remember. Our committee is already thinking about next year, and while we won't be getting any bigger, we will strive for the excellent programming and fun networking opportunities that we all associate with the annual Banff Seminar. We look forward to seeing you in beautiful Banff in 2024!

Chloe McMillan, Chair, 2023 Banff Seminar Planning Committee

> Dr. Will Flanary (Dr. Glaucomflecken) Keynote speaker

Together:
Canada's Hospital Pharmacy
Conference 2023 Recap





Pharmacist Spotlight

Lapinda Chitnuyanondh Pharmacist Sturgeon Hospital, Edmonton Alberta Health Services

Ayush: Please tell us a little bit about your journey in pharmacy and your current role. Why did you choose the role you are in now? What does a typical work day look like for you?

Lapinda: Currently, I work as an ICU and CCU pharmacist at the Sturgeon Hospital in St. Albert. I provide integrated clinical services to intensive care and cardiology patients as part of a collaborative practice team, which includes intensivists/cardiologists, respiratory therapists, nurse practitioners, and nurses. I started my role in ICU/CCU in 2022 during the pandemic, having previously worked on family medicine and internal medicine after graduating with my PharmD in 2019.

I chose to become an ICU/CCU pharmacist because I value the many learning opportunities from seeing something new every day in a dynamic environment. Critical care is a highly progressive and evolving field, with constant new and advanced research and topics, so a big part of my role is staying up to date with these advancements. My day consists of typical clinical pharmacist duties of reviewing medication history, evaluating drug therapy, collaborating with the team to optimize treatment, aiding in antimicrobial stewardship, and providing therapeutic drugs monitoring. As a CCU pharmacist, I also spend a lot of time on patient education and discharge teaching. The start of complex medication regimens can be overwhelming for patients, but patient education and discharge teaching is critical to ensure patient understanding and buy-in to their treatment plan. Patients are always appreciative when they feel like active participants in making informed decisions about their therapy.

On the other hand, in the ICU, patients are ventilated or sedated and have limited to no ability to communicate with the team. Therefore, I have a bigger role in communicating with families and advocating for the patient.

Lastly, I participate in auditing and helping implement critical care initiatives. Most recently, I aided with the launch of the ROSA project* in the ICU, which aims to reduce the number of hours of continuous sedative or analgesic infusion. I worked with the team to educate that prolonged sedation can contribute to complications including delirium, prolonged mechanical ventilation, ventilator associated pneumonia, pressure injuries, VTEs, increased incidence of tracheostomies, all of which can prolong length of stay. Additionally, I helped emphasize guideline-directed therapy with focus on pain control to encourage the minimization of sedation use. I also completed audits and provided feedback to streamline the decision making algorithm for analgesic and sedation use in ICU.

My role can be quite overwhelming at times, but it is also extremely rewarding. I feel excited to work in a place where the learning opportunities are endless and I get to see something new every day. I never know what my day-to-day is going to look like, but it feels good knowing I'm making an impact on someone's life.



Pharmacist Spotlight

Lapinda Chitnuyanondh Pharmacist Sturgeon Hospital, Edmonton Alberta Health Services

Ayush: What drew you to working at the Sturgeon Hospital?

Lapinda: I was very fortunate to be matched to one of Sturgeon Hospital's family medicine teams during my fourth-year clinical rotation. Not only was this an amazing learning opportunity, the experience prompted me to think about what kind of work environment I was looking for after graduation. I wanted to feel supported and heard by my peers, and I watched as the pharmacists at the Sturgeon Hospital actively cultivated a family-like team, listening, supporting, and helping each other through challenges, both personal and professional. In addition to wanting a close-knit work family, I also knew I wanted to be challenged clinically. Being a community hospital, Sturgeon Hospital was considered a smaller site, but it was far from lacking in opportunities for growth and professional development. The site offers pharmacy services in a wide variety of clinical areas, providing opportunities for pharmacists to explore different areas of interest. Furthermore, I was drawn to working on a multidisciplinary team. Take my team for example; ICU/CCU definitely highlights interprofessional collaboration since every team member (patient and family are invited too!) are asked for their input during rounds and we are encouraged to freely exchange ideas and ask questions.

Ayush: What is the best piece of advice you received early in your career?

Lapinda: I used to be obsessed about never making a mistake that when I made one, I would be upset with myself for days. When I started my hospital career, my colleague astutely reminded me that as humans, mistakes are inevitable and are good opportunities for learning. He helped me shift my view of seeing my mistakes as justification for self-punishment to seeing them as part of the learning process and a way to identify how I can improve in the future.

Ayush: What are your special interests or hobbies outside of work?

Lapinda: Being active is an important part of my lifestyle so I like to incorporate activities that I can fit into my busy schedule. I also love the outdoors; I feel like breathing in the fresh air and seeing greenery is an instant boost for my mental health (Edmonton winters can be rough!). Lately, I've really been into rock climbing. It's a great way to fit both a bit of cardio and strength training into my week while socializing with friends. So far, I've mainly rock climbed at indoor gyms but I'll be trying my hand out at outdoor rock climbing this summer!



CONTACT US!

Do you, or someone you know, want to be interviewed for the Pharmacy Spotlight initiative?

As part of our initiative to highlight the hard work and dedication of individuals, as well as the many innovative practices within pharmacy, we are publishing interviews with **pharmacists, technicians, and assistants** working in Alberta. If you would like to nominate an interviewee, please submit your request to Caitlyn & Ayush (caitlyn.rozmahel@ahs.ca, achadha@ualberta.ca).

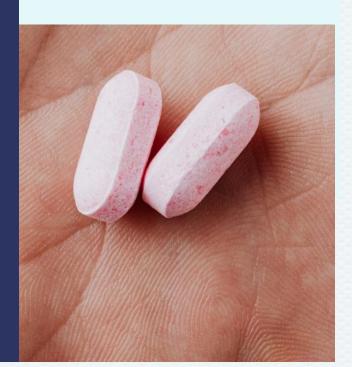
Residency Project Presentation Teaser

Join us on Friday June 23, 2023

Resident: Akshita Chandok Project title: EZVH: Utilization of Guideline-**Directed Medical Therapy** in HFrEF Patients **Preceptor**: Pawan Gill

Resident: Anthony Kapelke

Project title: Comparison of a novel pharmacist and nurse-led medication optimization clinic vs conventional heart function clinic for achievement of optimal quideline-directed medical therapy in patients with heart failure with reduced ejection fraction Preceptor: Sheri Koshman



Resident: Alexi Yuzwenko Project title: Identifying pre-, post-, and in-Hospital Utilization of Benzodiazepine Receptor Agonists in older adults admitted to Alberta Acute Care Facilities (ID BZRA)

Preceptor: Cheryl Sadowski

Resident: Jesalyn Clarkson Project title: COVID-19 and Recurrent VTE Rates (CORE-VTE) **Preceptor:** Tammy Bungard

> **Resident: Julian** Hopwood-Raja

Project title: Identification of Cardiovascular Risks and Outcomes for Allogeneic Stem

Cell Transplant Recipients Preceptor: Nikki Blosser



Residency Project Presentation Teaser

Join us on Friday June 23, 2023

Resident: Lena Makortoff
Project title: ECLIPSES:
Early Initiation of Sodium
Glucose CoTransporter-2
Inhibitors
for CardiovascuLar
Protection In Patients with
Type II Diabetes Following
ACS
and SubsEquent CABG
Surgery
Preceptor: Cheryl Harten

Resident: Cody
Thompson
Project title: URINE
COALITION:
Understanding the
Impacts on Urine Culture
Ordering
and Antibiotic Prescribing
After Implementation of
Mandatory Indications to
Order Urine
Cultures
Preceptor: Darren Pasay



More details to follow via email!

Resident: Zac Kronbauer Project title:

Acknowledging Moral dIstress: is it Harming Acute care Pharmacists providing direct Patient care, Yes or no? (AMI-HAPPY)

Preceptor: Angela Gee

Resident: Christina Watts

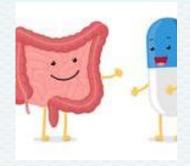
Project title: Pharmacist Telephone Follow up for Antineoplastic Agents used in Hematologic Cancers

Preceptor: Frances Folkman

Resident: Megan Hopkins

Project title: Hospital
Pharmacists' Perceived
Competence in Providing
Pharmaceutical
Care to Oncology Patients
(HoPP-CoP2)

Preceptors: Kevin Thai and Michelle Dowhan



Why Renew Your CSHP Membership?

It's time for <u>membership renewal!</u>
Continue to take advantage of the many benefits of being a CSHP member, including:







Access to local and provincial networking events and conferences, which have temporarily adapted to online formats to ensure accessibility while public health restrictions are in place

Access to multiple online and webinar continuing education opportunities provided by AB branch and CSHP National

Access to tools to support development of your pharmacy practice research skills, as well as the Research Dissemination Grant to provide funding for poster presentations at conferences and publication of manuscripts







Eligibility for awards that recognize your contributions to hospital pharmacy practice Access to Pharmacy Specialty Networks (PSNs), which connect pharmacists from across Canada to share expertise, ask questions, and enhance your patientcentred pharmacy practice

Access to discounted Professional Liability Insurance

CSHP Alberta Branch Awards





<u>Click here to apply for awards!</u>

<u> Mentorship Award</u>

Submissions start May 1 2023 Deadline July 28, 2023

This award was developed to recognize those pharmacists and technicians who are a positive influence on students, residents and peers. Through teaching, creating learning or career opportunities for others, this is the person who is looked upon for support and guidance. We all had a person who welcomed us, inspired us and motivated us and who helped to shape the clinicians we are today. Nominate that person today! See the following link for full award criteria:

Click HERE for full Award Criteria

Practitioner Award

Submissions start May 1 2023 Deadline July 28, 2023

This award is designed to recognize the significant contributions to pharmacy practice. Is there a pharmacist or technician who goes above and beyond their required work to provide exceptional service to their patients or profession? Is there someone who is considered a leader amongst their peers and health care team? What about someone who is always engaged in the latest development in health care? This is your opportunity to give this person the recognition they deserve!

Click HERE for full Award Criteria

CSHP Alberta Branch Awards

<u>Donna Pipa</u> <u>Meritorious Service</u> <u>Award</u>

Submissions start May 1 2023 Deadline July 28, 2023

This award is offered to a CSHP AB Branch Member to recognize their exceptional contributions to the CSHP Alberta Branch. Nominate the person you have looked up to, worked alongside with or whose hard work you benefit from! Winner receives \$1,000.00 award donated by Fresenius Kabi.

Click HERE for full Award Criteria



Click here to apply for awards!



Recognition Program

Submissions start May 1 2023 Deadline July 28, 2023

The Recognition Program gives us an opportunity to formally celebrate the efforts and attributes of our fellow pharmacists and pharmacy technicians. The theme of the award changes each year to appreciate different qualities in our peers.

This year's theme is soon to be determined - stay tuned

Nominees will be recognized with a certificate at the Branch AGM and there is no limit to the number of recipients. Please note if a group of 10 or more pharmacists/pharmacy technicians is nominated for a single recognition, only a group certificate will be presented.

Click HERE for full Award Criteria

Call for Volunteers: 2023-24 CSHP AB Council and Committee Positions

Want to give back to your profession?
Interested in building on your skills and learning?
Looking to create connections and work with a great group of people?
Consider volunteering for the CSHP Alberta Branch!

Are you already volunteering with us and looking for the next step?

Are you looking to develop your leadership skills?

Then consider taking on a council role position as a chairperson or executive member!

We are now accepting applications for volunteers on all of our various committees and on our Alberta Branch Council. The positions will start in October 2023. Each committee and council position offers something different, so take a look here for their descriptions!

Ready to submit your name?

For committee member positions:

<u>Click here to fill out the Committee Volunteer Form.</u>

For council member positions:

<u>Click here to fill out the Council Volunteer Form.</u>

Submit your volunteer forms by June 30, 2023.

If you would like to learn more about the committees and positions, or h ave questions about the nomination process, please feel free to contact me directly at catherine.biggs@ahs.ca

Looking forward to seeing your names on that form!

Cathy Biggs, CSHP-AB President

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Council Positions:

- Awards Committee Vice-Chair
- Communications Committee
 Vice-Chair
- Education Committee Vice-Chair
- Membership Committee Vice-Chair
- Pharmacy Awareness Month Committee Vice-Chair
- Research Committee Vice-Chair
- Secretary
- Treasurer

Committee Member Positions:

- Awards Committee
- Communications
 Committee
- Educational Services
 Committee
- Membership Committee
- Pharmacy Awareness Month Committee
- Research Committee

CSHP AB Student Column

The CSHP AB Student Committee is thrilled to announce the conclusion of yet another exhilarating school year. Despite the numerous obstacles we faced in the transition back to in-person learning, students were thankful to create countless unforgettable experiences along the way. One such highlight was the return of the Together Conference live in Banff, where students eagerly ventured to the mountains to participate in a wide array of engaging keynotes and social activities. Of all the conference's memorable moments, the opportunity for attendees to hear from viral Tiktok sensation Bill Flanary, also known as Dr. Glaucomflecken, left a lasting impression on the students.

Pharmacy Appreciation Month (PAM) never fails to bring excitement to both pharmacists and students, this year was no exception. The Alberta Pharmacy Students' Association (APSA) started off PAM by holding a kickoff event filled with pharmacy- themed giveaways such as stickers, notebooks, buttons, and other swag. Students also had the chance to commemorate the start of PAM by capturing some snaps at the CSHP photo booth set up by the Student Committee.

during PAM was the annual Evidence Based Medicine Competition, held in collaboration with the Canadian Association of Pharmacy Students and Interns (CAPSI). This year, the competition featured a new twist: the competition was judged on a national scale with one winning team to be selected for the entire country. While the results of the event are still pending, the competition proved to be a challenging yet rewarding experience for all students involved.

One of the several CSHP initiatives that took place

The annual Hospital Pharmacy Career Night made its much-awaited comeback during PAM with an inperson event after being limited to virtual platforms since the onset of the pandemic. This event proved to be an excellent opportunity for students to interact with practicing hospital pharmacists from various settings, gaining valuable insights into the diverse career opportunities within pharmacy.

The Student Committee also organized the annual Interdisciplinary Team Talk, which was hosted by Alexander Lee and his ICU team from the Royal Alexandra Hospital. During the event, Alex and his colleagues gave a detailed presentation, offering students an insightful look into medical practice in the ICU through the clinical lens of various different health disciplines.

The final event of the month was a Hospital Residency Information Session, organized by the Alberta Pharmacy Residency Coordinators. This highly anticipated session provided students with valuable insights into the residency application process, along with the opportunity to have their questions answered directly by the coordinators themselves.

The CSHP AB Branch is delighted to announce that Hubert Piatkowski will be taking on the role of CSHP AB Student Representative this upcoming academic year. As we continue our transition back to an in-person format, there is much to look forward to, we are confident that Hubert's leadership will quide us towards continued success!

The CSHP AB Student Committee would like to express our sincere appreciation to Catherine Biggs, CSHP AB Vision Portfolio Presidential Officer, for her unwavering dedication and support in making this year's events and initiatives a success. We would also like to extend our gratitude to all our participants and guest speakers who took the time to engage and interact with the next generation of pharmacists.

Congratulations to the Class of 2023 as they embark on a new journey as practicing pharmacists, we wish you the best of luck on your upcoming PEBCS! Additionally, we extend our best wishes to the Class of 2024, who will be leaving campus to embark on clinical placements, preparing them for their future success as pharmacists!

Alison Cheuna **CSHP-AB Communications Committee Student Chair**

Karanvir Deol **CSHP-AB Student Representative**





Latest on Cancer Associated Thrombosis (L-CAT)

Calli Safnuk, BSP 2020-2021 Pharmacy Resident

Did you know?

VTE is the 2nd leading cause of death in cancer patients, after disease progression.1The overall mortality rate is 67.7 (95% CI, 65.9-69.7) per 100 person-years with most deaths (>60%) occurring within the first year following the VTE diagnosis (2)

Case from the front line:

55 y.o. male admitted for syncope 2 o to pulmonary embolism. This gentleman's relevant PMH includes bladder cancer. He has normal renal function, wt of 90 kg, no alternate indication for anticoagulation. He was started on Tinzaparin 16,000 U SC daily

Guideline Recommendations

ISTH (2018)3: DOACs suggested (rivaroxaban and edoxaban) in patients with an acute VTE, low risk of bleeding, and no drug interactions. LMWH suggested for high bleed risk patients (luminal GI ca with an intact primary, risk of GU bleed, bladder or nephrostomy tubes, or patients with active GI mucosal abnormalities). Canadian consensus (2015)4: LMWH. No data published on DOACs at time of publication.

Question: Are DOACs indicated to treat a pulmonary embolism in a patient with active cancer?

Summary of Evidence for DOACs in Cancer-Associated VTE

	Hokus	sai VTE ⁵ SELECT-D ⁶		CARAVAGGIO ⁷		
N (%)	Edox N: 622	Dalt N: 624	Riva N: 203	Dalt N: 203	Apix N: 676	Dalt N: 679
Recurrent VTE	34 (6.5)	46 (8.8)	8 (3.9)	18 (8.8)	32 (5.6)	46 (7.9)
Major Bleeding	29 (5.6)	17 (3.2)	11 (5.4)	6 (3.0)	22 (3.8)	23 (4.0)
GI Cancers	165 (31.6)	140 (26.7)	91 (45)	86 (42.4)	188 (32.6)	187 (32.3)
GU Cancers	65 (12.5)	71 (13.5)	4 (2)	10 (5)	66 (11.5)	73 (12.6)

What about Warfarin? The CLOT8 and CATCH9 trials

were randomized, openlabelled trials of LMWH vs warfarin. They demonstrated decreased recurrent VTE rates in LMWH groups with statistical difference HR 0.48 [95% CI 0.30-0.77] P = 0.02] and non-statistical difference HR 0.65 [95% CI 0.41-1.03] P = 0.07], respectively. LMWH was drug of choice prior to DOAC trials due to no significant difference in risk of major bleeding.

CLINICAL APPLICATION

DOACs are non-inferior to LMWH; no statistical difference in risk of recurrent VTE at 6 months.5-7 Higher risk of major bleed with rivaroxaban and edoxaban vs. LMWH, particularly in those with GI and GU cancers. 5-6,10

Lower risk of major bleed with apixaban vs LMWH (regardless of cancer etiology):may be appropriate in patients with high bleed risk cancers and associated thrombosis. 7

LMWH preferred in extreme weights (>120kg), renal dysfunction, peri-procedure, and to avoid interactions

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2. Cohen AT, Katholing A, Rietbrock S, Bamber L, Martinez C. Epidemiology of first and recurrent venous thromboembolism in patients with active cancer. A population-based cohort study. Thromb Haemost. 2017; 117 (1): 57-65.

3. Khorana, AA, Noble, S, Lee, AYY, Soff, G, Meyer, G, O'Connell, C, Carrier, M. Role of direct oral anticoagulants in the treatment of cancer-associated venous thromboembolism: guidance from the SSC of the ISTH. J Thromb Haemost 2018; 16: 1891–4.

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on the management of venous thromboembolism in patients with cancer. Part 2: treatment. Curr Oncol. 2015 Apr;22(2):144-55.
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7. Agnelli G, et al. "Appixaban for the Treatment of Venous Thromboembolism Associated with Cancer". The New England Journal of Medicine. 2020. 382:1599-607
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INPHARMATION UPDATE May 2023 | 16



CoNS in Urine Cultures: Cause for CoNSern?

Lena Makortoff, BSc, PharmD Pharmacy Resident – Calgary Zone

Coagulase Negative Staphylococci (CoNS) are a heterogeneous group of organisms that are often considered contaminants when isolated in bacterial culture (1,2). Over the years, CoNS have gained recognition for causing a variety of clinically significant infections, particularly due to their ability to form biofilms in patients with prosthetic devices or other foreign body material (1,2). However, many still question the clinical significance of CoNS in urine despite S. saprophyticus and S. epidermidis being well-known urinary pathogens (2). Thus, distinguishing between contamination and infection is essential in order to avoid unnecessary antibiotic use and appropriately treat an existing infection.

Clinical Question: Is CoNS clinically significant and does it require treatment when isolated in urine cultures?

What does the evidence say?							
Study	Methods		Results	Critical Appraisal			
Hashmi et al. 2016 ¹	,		Frequency of CoNS: 3% of cases in the outpatient population vs 13% in the inpatient population Isolates: Identified 220 CoNS isolates; S. saprophyticus (31%), S. epidermidis (19%), S. haemolyticus (15%)	Strengths: Included patients with symptomatic UTI Weaknesses: Retrospective study, thus difficult to control for bias or confounding variables Did not discuss patient characteristics (i.e. those with catheters vs none)			
Megged. 2022 ⁴			Frequency of CoNS: 30 patients had UTI caused by CoNS which made up 0.9% of all children with UTI during the study period Isolates: S. epidermidis (33%), S. saprophyticus (27%), S. simulans (20%), and S. haemolyticus (20%)	Strengths: Included patients with diagnosis of UTI Weaknesses: Retrospective study specific to pediatric population Single center with very small sample size Did not specify exclusion criteria			
Urinary Tract Infection (UTI) Treatment Guidelines							
· · · · · · · · · · · · · · · · · · ·		end against treating ASB in most patient populations except those who are pregnant and those ng urology procedures and/or surgery					
2010 IDSA Uncomplicated Cystitis Recommend treating empirically in <u>all patients</u> with symptoms suggestive of UTI (dysur urgency)			ith symptoms suggestive of UTI (dysuria, frequency,				
Urinary Tract Infection ⁷ not indicat			s include fever, rigors, malaise, or altered mentation. Pyuria and cloudy/odorous urine alone are tions to start antibiotics. A urine C&S should be collected to ensure empiric regimen provides antimicrobial coverage, as organisms are often multidrug resistant.				
I _ 0		eatment of ASB is not recommended. Simple Cystitis should be treated for 5-7 days. nritis or complicated UTI should be treated with susceptible antibiotics for 14-21 days.					

Bottom Line: CoNS are capable of causing clinically significant UTIs. However, evidence that explores this clinical question is limited and of poor quality. It suggests that UTIs caused by CoNS occur in only 13% of hospitalized patients and is even more rare in other populations. Thus, it is important to consider clinical factors, such as UTI symptoms, and patient factors, such as immunodeficiency or catheter use when deciding whether to treat or not. The table comparing contamination and infection can help guide clinical decision making to limit the use of unnecessary antibiotics. If a clinician decides to treat, they should prescribe antibiotics in alignment with the guidelines and culture and sensitivities.

References

[1] Hashmi A, et al. Species identification and antibiotic susceptibilities of coagulase negative staphylococci isolated from urinary tract infection specimens. J Coll Physicians Surg Pak. 2016 Jul 1;26(7):581- 4. [2] DynaMed. Coagulase-negative staphylococci (including Staphylococcus lugdunensis). EBSCO Information Services. Accessed Nov 1 2022. https://www-dynamed com.ahs.idm.oclc.org/condition/coagulase-negative-staphylococci-including-staphylococcus-lugdunensis. [3] Heilmann C, et al. Are Coagulase Negative Staphylococci virulent? Clin Microbiol Infect. 2019 Sep 1;25(9):1071-80. [4] Megged O. Coagulase-negative staphylococci: A rare cause of urinary tract infections in children with consequences on clinical practice. Eur. J. Pediatr. 2022 Mar;181(3):1099-104. [5] Nicolle L, et al. Clinical practice guideline for the management of asymptomatic bacteriuria: 2019 update by the IDSA. Clin Infect Dis. 2019 May 2;68(10):e83-110. [6] Gupta K, et al. International clinical practice guidelines for the treatment of acute uncomplicated cystitis and pyelonephritis in women: a 2010 update by the IDSA and the ESCMID. Clin. Inf. dis. 2011 Mar 1;52(5):e103-20. [7] Hooton M et al. Diagnosis, prevention, and treatment of catheter-associated urinary tract infections in adults: 2009 International Clinical Practice Guidelines from the IDSA. Clin Inf Dis. 2010 Mar 1;50(5):625-63. [8]. Goldman JD et al. Urinary tract infections in solid organ transplant recipients: Guidelines from the American Society of Transplantation. 2019 Sep;33(9):e13507: