

MONOGRAPH

VOLUME 24 ISSUE 3

In this issue:

Pharmacists Practicing as
Opioid Stewards

What is *PDW* and Why
Should You Care

Lucky Girl Syndrome.
What is it and Why
it Might Work For You.

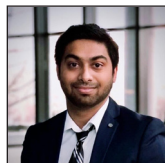


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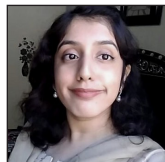
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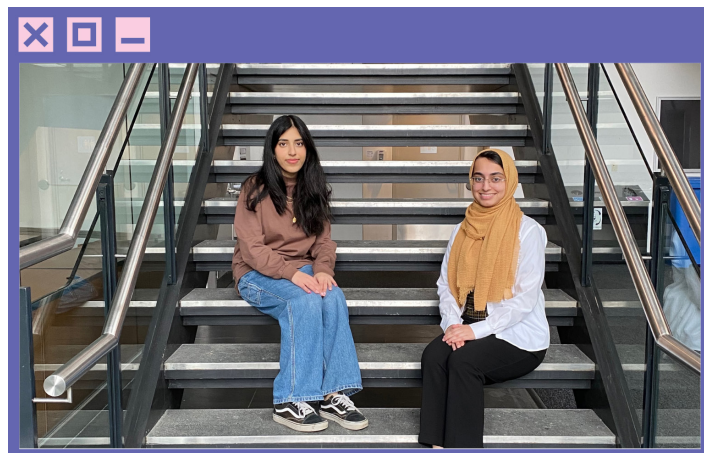
Hello Phriends!

We wish you a warm welcome to this year with the publication of Vol. 24, Issue 3 of The Monograph! As always, your favorite school newsletter is filled with wonderful submissions from classmates across all four years.

We recap PDW with a reflection from CAPSI, followed by a persuasive piece from PDW attendee Mackenzie Richardson (2T5). 2T3s Amar Deonandan and Sabih Jamil share their wisdom in the form of APPE selection tips and an overview of minor ailments prescribing. 2T6s Meriam Salih and Sara Rough share some foodie content with their articles about healthy eating and a restaurant review. Club's corner is back with an insightful piece on opioid stewardship from EVOLVE. UTSU representative Samra Ghazi (2T4) gives us the scoop on the perks of being a UTSU member. Huy Pham (2T4) provides some information on bispecific antibodies. Some vibrant pieces from Radhika Thakkar (2T6) and Nursan Abdullah (2T5) share how to manifest Lucky Girl Syndrome and unique drug colours. And if that doesn't wake you up, Ruby Ung (2T4)'s piece on her coffee moods sure will!

Of course, there are also recipes, puzzles, artwork, and photography from many of your classmates!

We'd like to extend our appreciation to those who contributed to this issue, from content submissions to layout! If you are interested in submitting a piece for a future issue, or would like to be a part of our layout team, please reach out to your class reps.



Joham Ahmad and Ruba Ullah

Monograph Co-Editors 2022-2023

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UPS ADDRESS

Hello everyone!!

We hope you all had an excellent winter break and holiday! The winter break was definitely a time needed to destress from last semester's final exams and relax from our busy schedules. But of course, WELCOME BACK to a new year and new semester. We can't wait to see all of you and share amazing holiday stories and make new memories in the new year. As a reminder, UPS is always here to be your support with all your academic, social and mental health well-being and needs, and of course, help you all enjoy your time here at the faculty.

We would like to take this opportunity to reflect on the amazing events that happened these past few months. Thank you to all the Class Council Vice-Presidents in creating a successful Charity Week. Congratulations to our CAPSI Sr. and Jr. Representatives, Theodora Udounwa and Ayman Lakhani, for a successful PDW Conference in Saskatoon in early January. A huge congratulations to all our CAPSI National Competition Winner, Amar Deonandan (PIC Competition - 2nd place), Al Ahamed (Guy Genest Passion for Pharmacy Award), and Rachel Ma, Clara Dai, Meriam Salih, and Adam Da Costa Gomes (Compounding Competition - 4th place). I hope all of our UofT delegates had fun during the conference. We highly suggest all pharmacy students participate in PDW 2024 as it will be hosted right at home, Toronto! In December 2022, we hosted our first in-person Phollies in over 2 years. We would also like to thank all the amazing talents that made the audience laugh and smile.

In terms of upcoming UPS news, we will be working in collaboration with the University of Waterloo's student society to plan the next Ontario Pharmacy Student Integrative Summit (OPSIS), a weekend long professional development conference, taking place in March 2023 at Niagara Falls. There will be limited spots available, so please keep an eye out for any announcements on ticket sales and other details. We are excited to officially welcome all 2T6s to the profession of pharmacy as they had their induction ceremony in mid January. We can't wait

to be part of your journey into this amazing and ever changing profession of healthcare. We look forward to celebrating and showcasing our amazing profession during Pharmacy Appreciation Month in March. Lastly, keep an eye out for an announcement regarding our upcoming UPS Awards Night and Semi-Formal to commemorate all your achievements and the end of yet another term at the faculty!

Sadly, as all great things must come to an end, we will be saying goodbye as your UPS President and Vice-President, and are excited to welcome your UPS President and Vice-President elect. We hope you all take the opportunities offered by UPS, clubs, and faculty to expand your skills and experiences!

As a final sign off, remember you are not alone as you are surrounded by phamily, so please do not hesitate to reach out to us if you have any questions, comments or concerns!

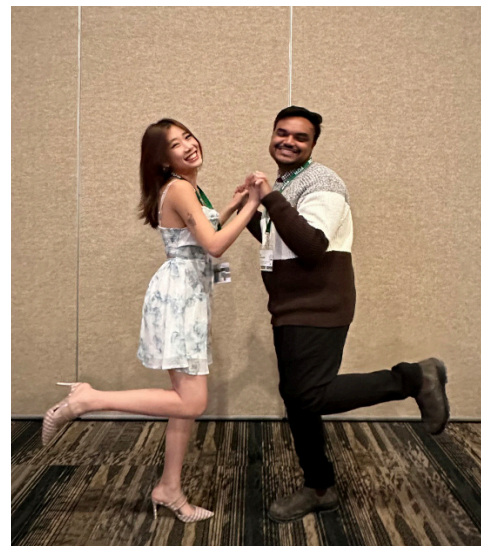
Sincerely,



Al-amin Ahamed
UPS President 2022-2023



Rachel Ma
UPS Vice-President 2022-2023





APPE Selection Tips

Amar Deonandan, 2T3

For third-year students, APPE Selections are well underway. I remember this as a very extensive, grueling process that did take quite a bit of time away from other coursework. However, to ensure that you have a meaningful fourth year experience, there are a couple of tips you can account for to ensure that you aren't ripping your hair out as you complete your selections and subsequent rotations.

1. Have an end goal in mind.

Your goal at the end of APPE rotations is to have a sufficient practical foundation that should help you practice competently as you license as a pharmacist. Being in your final year, this should be the time where you consider what you plan on doing after pharmacy school, whether it being retail, hospital, industry, research, teaching, a regulatory role, or a subsequent residency. Since you are given flexibility in when you can complete each rotation and some flexibility with your elective/selective rotations, you should try to pick rotations that will best prepare you for your goal. If you're dead-set planning on entering community practice, there's no need to complete additional unnecessary hospital rotations if you don't desire to do so.

2. Have an end goal in mind-but don't be afraid to explore and diversify.

APPEs will be the first time many students have the opportunity to explore different areas of practice. If you're unsure if where you feel you will land career-wise, this is your chance to explore and learn! APPEs are very short-term commitments, so even if you don't like something you tried, you won't be there for very long! Who knows, maybe you will find your calling at a rotation you never expected. There are many different types of rotations available, including working in industry, insurance companies, compounding pharmacies, and so-forth. You will never really know what's out there for you unless you try.

3. Break blocks are important

Students will get three 5-week blocks as a part of their APPE rotations. Think about what you will plan to use these break blocks for. Some students choose them to travel, some choose to use them to work, some use them to study for upcoming PEBCs, and some use them just to take a break from life. Break blocks are designated by what doesn't get filled with a matched rotation. Some students choose to have their break blocks at Block 9/10 to have extra time to study for exams (or get out of school early), while some choose summer blocks to help them study. Block 5 break blocks provide students with ample time to help them with their residency applications. You will need to weigh the importance of the timing of your breaks vs. importance of your rotations of interest to find a study block that works for you. If a specific timeslot is important for you to have a break, remember selecting a rotation for that specific slot puts you at risk of losing that study block for that timeslot.

4. Research your sites

Many listed sites have taken students before for previous EPE and APPE rotations. Since APPE rotations are a commitment on your behalf, it doesn't hurt to research a site before you add it to your selections. This includes factors such as location, commute time, pharmacy workload, preceptor expectations, and staffing environment. While previous students can be a great source of this knowledge, you can use other sources, such as Google Maps (and reviews) to help gauge the appropriateness of the site to your needs.

Hopefully these few tips can help ease the burden of complexity of choosing your APPE rotations. As always, a little bit of planning can go a long way in helping you match and earn a meaningful final year that will prepare you for practice.



CAPSI

Corner

Issue 3

PDW Reflection Piece

Ayman Lakhani, 2T5

For the first time since 2020, pharmacy students across Canada gathered to attend Professional Development Week (PDW), a student-run conference, in January. Hosted by a different pharmacy school each year, this year 17 UofT pharmacy students had the pleasure of attending PDW 2023 in Saskatoon, Saskatchewan.

The conference began on January 4 with an opening gala themed “Snowed In House Party”. Delegates were welcomed by the PDW 2023 Planning Committee, sponsors, and USask faculty before dining with other pharmacy students from across the country. The following morning, keynote speaker Dr. Shawna Pandya delivered an inspirational talk, sharing 10 things that have supported her in building resilience, gratitude and achieving goals in her career journey as a physician, astronaut, and citizen scientist. Over the course of the afternoon, students partook in a series of concurrent sessions on topics including financial literacy, antibiotic resistance, the Non-Insured Health Benefits (NIHB) program, improving patient outcomes through strong internal leadership, trauma-informed care and so much more! Students had the exceptional opportunity to learn from pharmacists, leaders and experts from far and near. To round off the evening, the highly-anticipated Canada’s Next Top Pharmacist saw students wear their best “Canadian Tuxedos” as they cheered on their schools in a pharmacy-themed pageant! Mackenzie Richardson (2T5) represented UofT in the battle for the CNTP 2023 crown. His display of pill counting with superior speed and accuracy as part of the competition wowed the audience. If pharmacy doesn’t work out, we’re confident he has a promising career in stand-up comedy.

On January 6, students visited the conference Health Fair to network with potential employers including community pharmacy banners, pharmaceutical companies, hospital pharmacy and professional association

representatives. Each school also displayed a research poster at the Health Fair. We were proud to showcase “The Use of Non-Surgical Treatments in Patients Waiting for Total Hip Arthroplasty”, prepared by Clara Chen (2T6). In the evening, participating delegates were shuttled to the Wanuskewin Heritage Park, where they learned about the cultures of Indigenous peoples of the Northern Plains. At this cultural and educational site, students got to prepare Bannock, build a tipi, or learn about technological practices of the Northern Plains. Cultural safety is a necessary component of care provided by pharmacy students. Visiting Wanuskewin was thus empowering to students, as we strive to provide culturally safe and competent care for Indigenous peoples.

On the final day of the conference, Chief Pharmacist Officer of the Canadian Pharmacists’ Association (CPhA), Dr. Danielle Paes, delivered a moving talk to the delegates. In the afternoon, four students from each pharmacy school engaged in fierce competition during the Pharmafacts bowl. Teams advanced through rounds based on their knowledge of topics covered in the CPS, as their respective schools cheered them on in school specific Pharmafacts t-shirts.

As PDW is organized in conjunction with CAPSI National, CAPSI provided several opportunities throughout the week for students to compete in competitions and learn more about how to get involved at the national level. During the Annual General Meeting and CAPSI Elections, delegates were provided with an overview of the committees that make up the council. The CAPSI National Executives also shared their main responsibilities in hopes to inspire students to run for positions during future elections. At the conference closing gala themed “Land of the Living Skies”, newly-elected CAPSI National Execs and competition winners were announced and students had a final opportunity to mingle with phriends, old and new.

When asked to describe the conference in a few words, UofT delegates said it was “transformative”, “thrilling”, “something all pharmacy students should attend at least once”, “eye-opening”, “incredible”, “memories”, “networking”, “pride”, and “exciting”. PDW 2023 was a phenomenal success, despite the challenges of planning an in-person conference for the first time since the COVID-19 pandemic. As UofT students, we are excited

to accept the baton and host PDW 2024 here in Toronto. In the interim, we hope you'll consider getting involved with CAPSI at the local and national level! Stay tuned for more information on CAPSI National By-Elections

over the course of the semester if you're interested in representing UofT and the larger national body of pharmacy students.

Prizes Won:

Apotex IPSF Health Campaign Award - 1st place

CPhA Award of Professionalism - 2nd place

Loblaws Patient Interview Competition - Amar Deonandan (2T3), 2nd place

PharmaChoice Advice for Life Presentation Competition - Arnold Ruste (2T3), 2nd place

Student Literary Challenge - Arnold Ruste (2T3), 4th place

Medisca Compounding Competition – Clara Dai (2T4), Rachel Ma (2T4), Adam Da Costa Gomes (2T5) & Meriam Salih (2T6) 4th place

Pharmafacts Competition – Logan Groves (2T3), Stephanie Rosenbaum (2T4), Godwin Chan (2T5) & Meriam Salih (2T6), 5th place



exciting
interesting
inspirational
friendship
unity
incredible
pride
transformative
educational
thrilling
unforgettable
networking
eye-opening
stimulating
memories
must-attend



WHAT IS PDW AND WHY SHOULD YOU CARE?

MACKENZIE
RICHARDSON, 2T5

PDW stands for ~~Partying & Drinking Week~~ Professional Development Week. It is an annual four-day event hosted by CAPSI and will be occurring in Toronto in January 2024. Many of you reading this are probably thinking “great, another event which I can safely ignore while I focus on my schoolwork.” I am here today to tell you that **YOU ARE WRONG AND YOU ABSOLUTELY CANNOT MISS THIS EVENT.**

PDW 2023 was hosted in Saskatoon, Saskatchewan and was one of the greatest events I have ever had the pleasure and fortune of attending. The event sees representatives from all 10 of the Canadian pharmacy schools (soon to be 11 with the opening of a new pharmacy program in Ottawa) coming together to engage in learning and socializing. I would like to give you five reasons why you cannot miss this event, and must attend by any means possible:

1. There are some amazing information sessions: have you ever wondered how Health Canada audits pharmacies? Do you know what harm reduction is or how you help as a pharmacist? What are the different types of employment insurance available to you as a pharmacist? These are just a few interesting topics I had the pleasure of learning about during my stint at PDW 2023. During the conference, excellent speakers from all different walks of life come to provide insight and education about topics both directly and tangentially related to pharmacy. These precious tidbits of knowledge may help you be a better pharmacist in the future, or may just help you realize what it is you want to focus on or learn more about your professional pharmacy career.
2. The competitions are amazing: PDW is where the best of the best from each school duke it out in several thrilling contests. There is Canada's Next Top

Pharmacist (CNTP), the OTC and PIC competitions, and of course the Pharmafacts trivia competition. During all of these events, you have a responsibility to lose your voice screaming in support of your colleagues and your school as they try to prove that your university is, in fact, the best.

3. You meet the most interesting people: the editor-in-chief of the CPS and the head writer/researcher of RxFiles get into an argument. Who wins? Any pharmacy student lucky enough to attend PDW and see this happen. PDW attracts some of the top minds (and top employers!) from across the country to engage with students. It is a great opportunity to explore jobs and fields you may never have thought about. It's your chance to ask “so how exactly did you start working for Novo Nordisk?”
4. Meeting other pharmacy students is incredibly exciting: have you ever looked at the course at LDFP and thought “surely there must be a better way?” Talking with students from other pharmacy schools can help provide insight into how it's done across the country. You can make new study partners, connect with new friends, and spark new ideas about how PharmD should really be run. Also, it's an awesome opportunity to get insight into what pharmacy life is like in other provinces. I got to ask the University of Alberta, students, if it's really better in Alberta (they seemed to think so).
5. It's tons of fun: PDW is hands-down an amazing experience. Socializing, learning, networking, drinking, eating, cheering, dancing, screaming, and living. There truly is something for everyone, and your PharmD life would truly be lacking if you don't attend. With PDW 2024 being in Toronto, now more than ever there is no excuse for not attending.



Pharmacists practicing as opioid stewards

Emily Crosier, EVOLVE 2T5 Representative

Prior to the COVID-19 pandemic, there have been multiple barriers to providing continuity of care to patients in the community who were using opioids and controlled substances. Since the beginning of the pandemic in 2020, Canada has seen an 89% increase in opioid-related deaths in comparison to 2019. Evidently, the opioid crisis was surging in Canada and the health care system was being overwhelmed with gaps that needed to be addressed.

With this in mind, Health Canada granted pharmacists a temporary expansion in their scope of practice in 2020 allowing them to extend, transfer, and deliver controlled substances. Opioid stewardship can be characterized by a provider's ability to monitor and evaluate opioid therapy to promote safe substance use and protect patient populations.



As medication experts, pharmacists have a significant role in managing the opioid crisis as they are one of the most accessible health care practitioners (HCPs) trained in the continuity of care and maintain trusting relationships with patients to assist them in managing their opioid use disorder. Evidently, with their expanded scope of practice, pharmacists can have a significant role as opioid stewards. Pharmacists have become a part of an interprofessional team which not only permits patient information to be easily accessed among HCPs but also reduces wait times for patients to have access to their opioid medications.

This not only reduces the burden for physicians but demonstrates pharmacists' ability to facilitate continuity of care, address opioid safety concerns, and improve relationships among patients and their respective prescriber. Furthermore, pharmacists have a pivotal role

in addressing the opioid crisis via various therapeutic interventions including deprescribing, monitoring and assessing opioid use, offering harm-reduction strategies and education. Their expanded scope of practice has allowed pharmacists to become involved in monitoring and evaluating opioid therapy to ensure safe drug use and support patients throughout their course of treatment. However, there have been some reservations among physicians who are hesitant with pharmacists' role in extending opioid prescriptions. This has proven to be a barrier in providing continuity of care and impacts a pharmacist's role as an opioid steward.

Lastly, as opioid stewards, pharmacists have a role in raising awareness surrounding problematic opioid use and have been providing interventions to promote safe drug use in the community. This not only engages pharmacists to intervene when patients first initiate opioid therapy (which has proven to be more effective in comparison to late interventions when patients have unsafe habits) but addresses the opioid crisis to ensure patients are using opioids in a safe manner, especially when initiating long-term therapy.

Overall, the expanded scope of practice of pharmacists has highlighted their role as opioid stewards by facilitating safe drug use practices throughout continuity of care to improve patient treatment outcomes and address the opioid crisis in Canada.



Prescribing for Minor Ailments

By Sabih Jamil, 2T3

Starting January 1, 2023, all Part A pharmacists, interns, and students will be authorized to prescribe for 13 minor ailments as defined under the regulations. Minor ailments are health conditions that can be managed by self-care strategies or minimal treatment. These conditions are:

- 1) usually short-term,
- 2) do not require lab results,
- 3) can be reliably differentiated from serious conditions,
- 4) their treatment is unlikely to mask other conditions, and
- 5) require minimal or short-term follow-up.



The approved minor ailments include:

- Allergic rhinitis
- Candidal stomatitis (oral thrush)
- Conjunctivitis (bacterial, allergic, and viral)
- Dermatitis (atopic, eczema, allergic and contact)
- Dysmenorrhea
- Gastroesophageal reflux disease (GERD)
- Hemorrhoids
- Herpes labialis (cold sores)
- Impetigo
- Insect bites and urticaria (hives)
- Tick bites, post-exposure prophylaxis
- Musculoskeletal sprains and strains
- Urinary tract infections (uncomplicated)

These conditions will be self-diagnosed by the patient and pharmacists will be able to prescribe based on their assessment of the patient. The purpose of pharmacist's assessment is not to diagnose but to choose the most appropriate treatment option. The assessment also includes referring to other health care providers when appropriate.

After the patient interaction, pharmacists must document and notify the primary care provider, where applicable. The documentation will include:

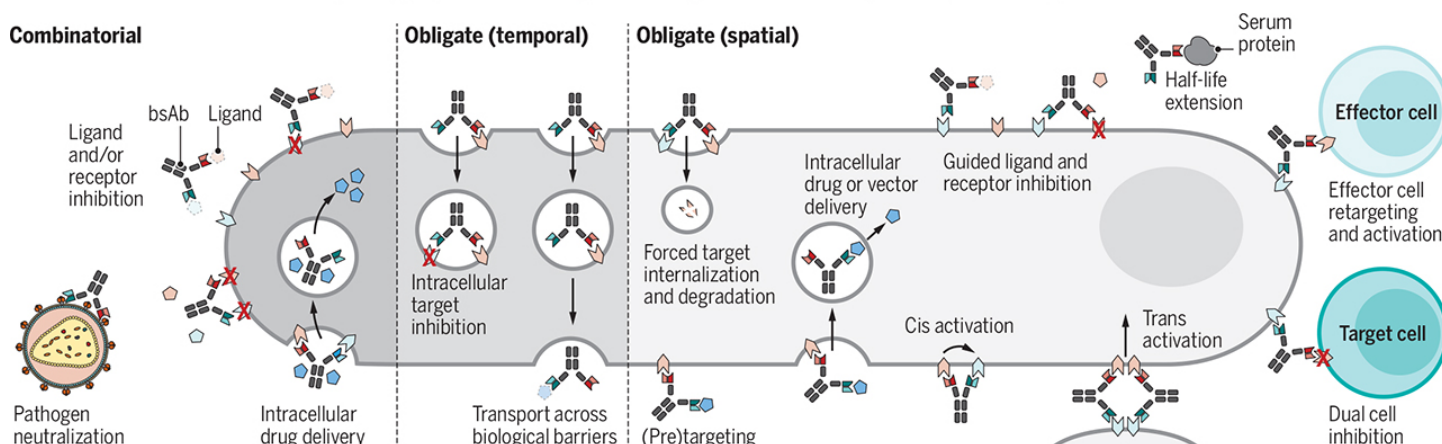
- 1) rationale for prescribing,
- 2) monitoring/follow-up plan, and
- 3) copy of the prescription.

The document needs to be clear, concise, timely, legible, and retrievable. The documentation is intended to inform the physician of the interaction. The liability of prescribing is assumed by the prescribing pharmacist.



Modes of action of bispecific antibodies

There are >100 bispecific antibodies (bsAbs) in clinical development. These are broadly classified as combinatorial, combining the activity of two antibodies within one molecule, or obligate, where combining both binding sites creates a temporal or spatial activity.



Two Antigens with One Antibody: the Specifics of Bispecific Antibodies

Huy Pham, 2T4

Small molecule drugs are a mainstay modality in pharmacotherapy. However, the prevalence of biopharmaceuticals has risen over the past few decades. While small molecule drugs practically dominate in terms of prescription volumes at retail pharmacies, taking up of the top 20 dispensed drugs in Canada in 2021, five of the top ten leading pharmaceutical products in Canada in 2020 were biologics. These products were infliximab, adalimumab, ustekinumab, ranibizumab, and pembrolizumab, all of which are monoclonal antibodies. [1] Of course, there are other types of antibody-based therapeutics such as Fc-fusion proteins, antibody-drug conjugates and bispecific antibodies, the last of which having the potential to address some of the limitations of 'classical' monospecific monoclonal antibodies.

Bispecific antibodies (bsAbs), a concept originally conceived by Nisonoff et al. in the 1960s, are artificial monoclonal antibodies that are designed to bind to two different epitopes of an antigen or two different antigens. [2] This ability to bind to different epitopes or antigens allows for novel mechanisms of action. For instance, bispecific antibodies can redirect immune cells towards tumour cells, thereby enhancing tumour killing. Alternatively, bsAbs may be used to simultaneously inhibit two different mediators or pathways, preferably those that have distinct or overlapping functions or to deliver

payloads to target cells. The antibodies that provide an activity not seen in a mixture of the parent antibodies are dubbed "obligate antibodies", which can further be classified into "temporal obligates", where there is sequential binding of the moieties, and "spatial obligates", where there is simultaneous binding of the moieties. The design latter requires precise positioning of the binding domains and their targets in three-dimensional space, making their design a challenge. Some bispecific antibodies are combinatorial, combining the activities of their parent molecules. They could serve as alternatives for antibody mixtures but at the cost of a fixed ratio of antibody binding domains early in development.[3]

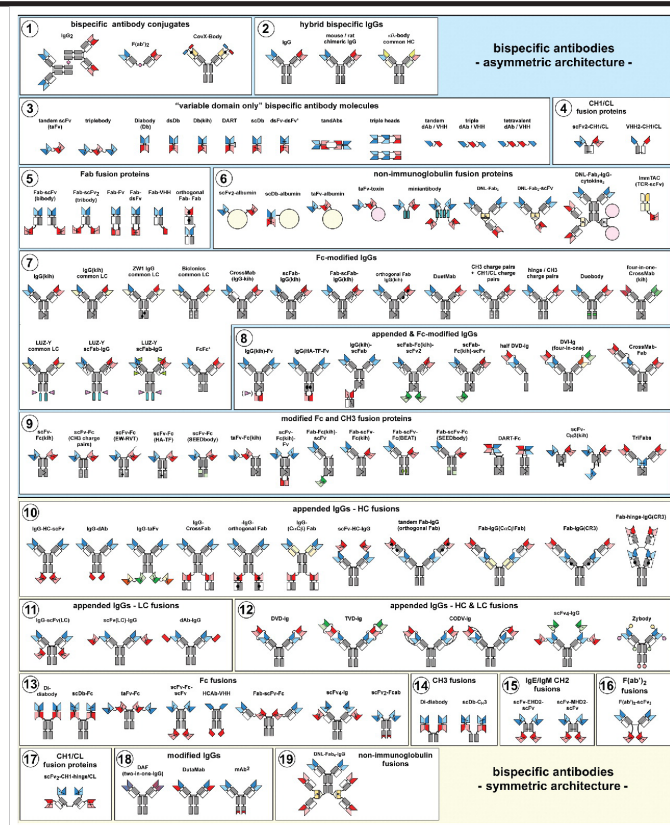
BsAbs are produced either chemically or biologically. The chemical production of bsAbs involves the chemical conjugation of two antibodies or antibody fragments through the use of bifunctional reagents that react with the thiol groups in the hinge region or ϵ -amino groups. A biological approach to bsAb production is to use somatic hybridization to facilitate the creation of quadro-ma (from the fusion of two established hybridomas) or trioma (from the fusion of an established hybridoma and mouse lymphocytes). Genetic engineering is also used to produce bsAb, where the antibody or antibody fragments are expressed from the same mRNA transcript or separate plasmids and combined by a binding motif.

BsAbs can be classified into two general groups: immunoglobulin G (IgG)-like bsAbs and non-IgG-like bsAbs. IgG-like bsAbs still possess the Fc region. As a result, these molecules have Fc-mediated effector functions like antibody-dependent cell-mediated cytotoxicity, antibody-dependent cellular phagocytosis, FcRn-mediated recycling and complement-dependent cytotoxicity. IgG-like bsAbs may be further divided based on whether or not they are symmetrical. In contrast, non-IgG-like bsAbs lack the Fc region, which allows for a lower immunogenicity, and are generally smaller, which allows for improved tissue penetration. Valency or the number of binding sites may also be used for classification. For example, 1 + 1 indicates that there is one binding site for each antigen. The toolbox for the design of bsAbs is very extensive, where the array of antigen-binding and dimerization modules allows for variety in valency, size, flexibility and pharmacological properties. Overall, there are over 100 formats of bsAbs, the noteworthy formats being dual-variable domains Ig where the variable domains are fused in tandem, bispecific T-cell engagers which are composed of scFvs connected by a flexible peptide linker, and Triomabs which are trifunctional antibodies composed of the light and heavy chains of two different antibodies.

Drug	Format	Targets	Indication	Adverse Effects
Blinatumomab (Blinycito)	Bispecific T cell engager	CD19 on B cells and CD3 on T cells	B-precursor acute lymphoblastic leukemia	Pyrexia, anemia, headaches, diarrhea, febrile neutropenia
Amivantamab (Rybrevent)	DuoBody	EGFR and MET receptors	Locally advanced or metastatic non-small cell lung cancer with activating EGFR Exon 20 insertion mutations	Rash, constipation, nausea, fatigue, dermatitis acneiform, infusion-related reactions, peripheral edema
Emicizumab (Hemlibra)	Asymmetric re-engineering technology-Ig	Activated factor IX and factor X	Hemophilia A with or without factor VIII inhibitors	Injection site reaction, arthralgia, headache, pyrexia, diarrhea, thrombotic events
Faricimab (Vabysmo)	CrossMAb	VEGF and angiopoietin 2	Neovascular age-related macular degeneration and diabetic macular edema	Cataract, conjunctival hemorrhage, increased intraocular pressure, eye pain
Tebentafusp (Kimmtrak)	Bispecific T cell engager	gp100 peptide and CD3 on T cells	Unresectable or metastatic uveal melanoma	Cytokine release syndrome, rash, pyrexia, fatigue, edema, hypotension

An issue related to the production of IgG-like BsAbs in particular is promiscuous chain linking, which can result in 16 combinations (with 10 distinct molecules), only one of which is a BsAb. Some methods to resolve the heavy chain problem include the use of a heavy chain and the 'knobs-into-holes', where one heavy chain is engineered with a 'knob' composed of larger amino acids and the other with a 'hole' composed of smaller amino acids. An interesting strategy to overcome the light chain problem is to engineer the light chains so that the electrostatic attraction between the light chain and its cognate heavy chain is increased.[4]

To date, five BsAbs are marketed in Canada and are used either in hematology-oncology or ophthalmology. The production of these drugs either involves Chinese



Hamster Ovary cell lines or Escherichia coli using recombinant DNA technology. Beyond those five drugs, there are many others in the pipeline and may prove to be a very innovative and flexible platform for the development of new biologics. This platform is of interest to the pharmaceutical industry as by 2024, therapeutic BsAbs could reach a market size of \$5.8 billion annually. [5]

References:

1. Pharmaceutical industry profile [Internet]. Government of Canada. 2021 [cited 2022 Nov 30]. Available from: <https://ised-isde.canada.ca/site/canadian-life-science-industries/en/biopharmaceuticals-and-pharmaceuticals/pharmaceutical-industry-profile>
2. Nisonoff A, Wissler FC, Lipman LN. Properties of the Major Component of a Peptic Digest of Rabbit Antibody. Science. 1960 Dec 9;132(3441):1770–1.
3. Labrijn AF, Janmaat ML, Reichert JM, Parren PWHI. Bispecific antibodies: a mechanistic review of the pipeline. Nat Rev Drug Discov. 2019 Jun 7;18(8):585–608.
4. Brinkmann U, Kontermann RE. The making of bispecific antibodies. mAbs. 2017 Jan 10;9(2):182–212.
5. Sedykh S, Prinz V, Buneva V, Nevinsky G. Bispecific antibodies: design, therapy, perspectives. Drug Des Devel Ther. 2018 Jan;Volume 12:195–208.



UBRELVY[®]

(ubrogepant) tablets | 50mg
100mg

By Sabih Jamil, 2T3

Reference:
 Dodick, D. W., Lipton, R. B., Ailani, J., Lu, K., Finnegan, M., Trugman, J. M., & Szegedi, A. (2019). Ubrogepant for the treatment of Migraine. New England Journal of Medicine, 381(23), 2230–2241. <https://doi.org/10.1056/nejmoa1813049>

Drug name	Ubrogepant – 50 mg, 100 mg
Drug class	Calcitonin gene-related peptide receptor antagonist
Indication	Acute treatment of moderate to severe <u>migraine</u> , with and without aura
Dosing	50 to 100 mg as a single dose; if symptoms persist or return, may repeat dose after 2 hours. Maximum: 200 mg per 24 hours.
Dose adjustment Renal Impairment	CrCl \geq 30 mL/min: No dosage adjustment necessary. CrCl 15 to 29 mL/min: 50 mg as a single dose; if symptoms persist or return, may repeat dose after 2 hours. Max dose: 100 mg per 24 hours. CrCl <15 mL/min: Avoid (has not been studied).
Hepatic Impairment	Mild to moderate (Child-Pugh class A, B): No adjustment necessary. Severe (Child-Pugh class C): 50 mg as a single dose; if symptoms persist or return, may repeat dose after 2 hours. Max dose: 100 mg per 24 hours.
Contraindications	Concomitant use of strong CYP3A4 inhibitors.
Precautions	Renal or hepatic impairment.
Pregnancy	Based on data from animal reproduction studies, ubrogepant may cause fetal harm.
Breast Feeding	It is not known if ubrogepant is present in breast milk. Effects on breast-fed infant and milk production are also unknown.
Special populations	Safety and efficacy are not established in pediatric patients. Insufficient data for patients \geq 65 years old.
ADRs	The most common adverse events are nausea (4%), somnolence (2-3%), and dry mouth (2%). Serious adverse events include appendicitis, spontaneous abortion, pericardial effusion, and seizure.
Drug interactions	BCRP Inhibitors (e.g., eltrombopag): May increase the serum concentration of Ubrogepant. CYP3A4 Inducers (e.g., rifampin): May decrease the serum concentration of Ubrogepant. CYP3A4 Inhibitors (e.g., ketoconazole, verapamil): May increase the serum concentration of Ubrogepant. P-glycoprotein Inhibitors (e.g., carvedilol): May increase the serum concentration of Ubrogepant.
Efficacy	1672 participants with migraine, with or without aura, were assigned in a 1:1:1 ratio to receive placebo, ubrogepant 50 mg, or ubrogepant 100 mg. The percentage of participants who had freedom from migraine pain at 2 hours was 11.8% in the placebo group, 19.2% in the 50 mg ubrogepant group ($P=0.002$), and 21.2% in the 100 mg ubrogepant group ($P<0.001$). No head-to-head trials have been performed to compare ubrogepant with other drugs for migraine.
Place in therapy	Ubrogepant should be considered for patients who have contraindications for triptans or when triptans are ineffective and poorly tolerated.
Cost/coverage	50 mg: ~ \$100 per tablet 100 mg: ~ \$100 per tablet * USA prices as Canadian prices are unavailable.

Final Summary:

Ubrogepant is an oral, small-molecule, calcitonin gene-related peptide receptor antagonist. It is indicated for acute treatment of moderate to severe migraines, with or without aura. It should be considered if triptans are contraindicated, ineffective, or poorly tolerated.

Unique Drug Colours

By Nursan Abdullah, 275

Medication can come in unique shapes or colors that some people might find appealing. Furthermore, colours and shapes can be used to make the product more appealing to patients. Most of the time the medication is randomly chosen by the manufacturer and can vary even if it's the same drug. Also, most of the time, colour and shape are not related to its effectiveness or safety. Let's talk about a few drugs that have memorable colours.

The colours vary due to pigments being added to the medication mix. Two common pigments used are titanium dioxide which is a white colour that can brighten the medication and iron oxide which can form the colours red, yellow, brown, and black.



In this section, I will go over a few drugs with unique colours and explain what they do.

1. Morphine sulfate.

Morphine sulfate is not naturally purple, it is usually white or off-white. This dark purple or light purple colour has been chosen in some morphine sulfate tablets or capsules to differentiate it from other medications as you don't want to confuse this drug with others.



Morphine sulfate is an opioid, a powerful painkiller that is used for patients with cancer, postoperative, and/or severe pain.

2. Acitretin

This medication is derived from vitamin A and is known as a synthetic retinoid. It is used to control skin problems such as psoriasis.



The brown and white colour reminds me of a cold brew drink that we will be chugging a lot of this semester.



3. Quinapril HCl 20 mg / hydrochlorothiazide 12.5 mg

This is a combination medication that is used to treat hypertension and heart failure.

It is a scored drug that resembles a heart, considering its almost valentine's day why not gift your loved one the gift of preventing heart failure and lowering their hypertension?



4. Levodopa 100 mg / benserazide HCl 25 mg

This medication is used for Parkinson's disease. Levodopa helps to increase the levels of motor control while benserazide helps keep levodopa from breaking down before it reaches the brain.



The Perks of Being a UTSU Member

As pharmacy students, we are members of the University of Toronto Students' Union (UTSU). The UTSU strives to be a democratic, accessible, and member-driven organization with a strong commitment to equity. To promote accessibility and equity, the UTSU has several resources available for all members to take advantage of, including a comprehensive health and dental plan, income tax program, student aid, and several other perks and discounts.

Health & Dental Plan:

The UTSU hosts a Health & Dental plan for all full-time students, providing some of the best dental, vision, and mental health coverage in Canada compared to other student association plans. Some of the services offered are listed below:

- Up to 80% coverage for prescription drugs
- Mental health practitioners
- Registered massage therapists, chiropractors, and physiotherapists
- Medical equipment (orthopaedic shoes, hearing aids, etc.)
- Diagnostic services
- Accidents and emergencies
- Preventative dental care
- Dental accidents
- Eye exams, eye glasses, and contact lenses
- Discounts on prescription glasses, contact lenses, or laser vision correction procedures

With midterms right around the corner, this can be a particularly stressful time. The UTSU is committed to ensuring the health and wellness of its members. If you are looking for mental health resources, the UTSU has an online directory for mental health resources available on campus and in Toronto. If you or someone you know are in crisis, please go to a local hospital, call 9-1-1, or contact a Distress Centre.

Income Tax Program:

Tax season is just around the corner. If you're like me, you don't know the first thing about filing your taxes. Well, UTSU's got you! The UTSU provides a virtual income tax program, relying on student volunteers

trained to help their peers file simple taxes. Keep an eye out on utsu.ca or [@uoftsu](https://www.instagram.com/uoftsu) on Instagram to see when dates become available for booking. For more information, please contact: services@utsu.ca.

Student Aid:

The UTSU works hard to make post-secondary education more affordable by aiding those with financial needs through needs-based bursaries. All you need to do is fill out a simple application for each bursary you would like to be considered for. There are several bursaries available on the UTSU website, including:

1. The Book and Academic Supplies Bursary
2. The Exam Deferral Bursary
3. The Academic Pursuits Bursary Grant
4. The Health and Wellness Bursary
5. The Accessibility Bursary
6. The Transit Bursary
7. The Emergency Bursary

Student Perks & Discounts:

The UTSU has connections with various retail, food, and entertainment partners to secure discounts for its members. Students can receive discounts on the TTC by using a TTC Post-Secondary Monthly Pass (\$128.15/month compared to \$156/month for an Adult TTC Monthly Pass). Tuesdays aren't just for discounted movie tickets - you can also get 10% off groceries on purchases over \$50 at Maisie's Independent City Market (in the Manulife Centre at Bay and Bloor) when you show your student ID card. Speaking of movie tickets, students can purchase Admit One tickets for \$10.25 (compared to a retail value of up to \$12.99). Check out the UTSU website to discover further discounts, including free admission to the AGO, discounted Ripley's Aquarium tickets, and 20% off regular-priced Rexall exclusive brands.

Be sure to check out the resources, discounts, and perks available to you as a UTSU member. If you have any questions, feel free to reach out to services@utsu.ca or contact me directly!

Samra Ghazi

UTSU Representative

Samra.ghazi@utsu.ca



UNIVERSITY OF TORONTO
STUDENTS' UNION



INTRODUCING PIPE *line* INDUSTRY SPEAKER SERIES

Select Thursdays at 7pm on Zoom*

Tired of being asked what you want to do when you graduate? Interested in a career within the pharmaceutical industry but don't know where to start? **The PIPEline Industry Speaker Series** was devised as a recurring career spotlight on various roles across the industry. Learn from established professionals why a career in industry can be **lucrative, challenging**, but most of all; **fulfilling**. Across **5 different events**, PIPE has curated guest speakers to share their tips to success, answer your questions, and help YOU find the right spot within the pharmaceutical industry!

* Space at events may be limited! Follow the QR code to make sure you are signed-up for our next event and watch our Facebook and Instagram for **GIVEAWAYS!** >>>



Previous Guests:



sanofi

AMGEN

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Eisai

BAYER

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Lilly

TikTok's Viral 'Lucky Girl Syndrome': What It Is and Why It Might Work for You

Radhika Thakkar, 2T6

It starts off like this, "I'm a lucky girl and only good things happen to me." Ever since I saw this on TikTok, I've been reciting it to myself every time I need good things to come my way.

The phrase first began to gain popularity in December when two girls eating noodles in the back of a car, were explaining how they passed their exams and got the rooms they wanted in their house by repeating the popular mantra. Now the #luckygirl syndrome has amassed almost 150 million views on TikTok where numerous people (both men and women) have claimed success from job promotions to new relationships.

The real question is does it work?

The Lucky Girl Syndrome isn't a new concept. It's just a system of positive affirmations and uses some of the principles in cognitive behavioral therapy (CBT)—which believes that your thoughts, emotions, and behaviors are all connected and influence each other.

CBT teaches that negative thinking is learned. The Lucky Girl Syndrome believes that you can change the learning process of negative thinking by making an active effort to approach things in a positive mindset. By telling yourself that you're lucky and only the best things happen to you, you start to feel more confident and happier. Then as your perception changes, your behavior follows.

The catch with this trend is that it's not just enough to say it, you have to feel it.

But that doesn't mean you can lucky girl yourself into winning the lottery, but you can use the technique to modify your beliefs and eliminate the negativity bias that no longer serves you. It simply taps into the law of attraction, if you exude positivity, you will attract only positive things. However, it's important to remember that while positive thinking is helpful practice, it shouldn't be used as a coping mechanism to deal with unpleasant emotions or harsh realities of life.

So how does this work?

Your affirmation can be anything. However, it is best to make them as specific to you and your goals as possible.

- **Focus on positive language:** Affirmations should be empowering. Instead of saying, "I won't fall again", say **"I will succeed."**
- **Use present tense:** Affirmations in the present tense are more grounding and effective. Say **"I am happy"** instead of "I will be happy"
- **Keep your affirmations short and to the point**
- **Be realistic:** Focus on your growth, not the result, to help avoid disappointment or burnout. Moreover, limit your affirmations to one goal at a time; that way you don't overwhelm yourself with too many things to achieve.
- It's important to remember that while positive thinking is helpful practice, it shouldn't be used as a coping mechanism to deal with unpleasant emotions or harsh realities of life.

Here's to everyone being a lucky girl/boy!



Eating Healthily: Where Do We Start?

By: Meriam Salih 2T6

Hello Phamily, it is your resident nutrition obsessed friend here to share more insights and tips. It is the new year, and resolutions are in full swing, a common one is eating more healthily or shedding some of the holiday pounds we may have accumulated. So, you know the drill, we sign up for the gym, get our steps in and vow to eat healthy and junk food becomes a four-letter word. But where exactly does one start when it comes to food, and more importantly in a few years when patients ask us for advice on how to better their eating habits, what do we tell them. No fear I have summarized some of the main principles recommended by dieticians into 4 simple points: Prioritize protein, choose your carbs wisely, fill up on veggies, and of course WATER!

So let's begin with protein, yes I know you have probably heard it a thousand times, working out protein, need a filling snack...protein, wanting to cure world hunger...protein, okay maybe I'm pushing it with that last one. But protein is huge when it comes to diet because it is one of the most filling macromolecules, having more protein at meals will lead to less snacking throughout the day. Also, protein is essential for muscle repair and maintaining all that muscle we work so hard to build, which helps us keep our metabolism in tip top shape.

Finally, this goes out to anyone struggling with maintaining their blood sugar, protein is less likely to spike your insulin and help you maintain a steady blood sugar, so you are less likely to have that crash and lethargic feeling an hour later.

Carbs, this one really is becoming a four-letter word, especially with the rise of keto diets and low-carb fads. Now if those diets work for you, that's great, but how reasonable is it to maintain this diet for the long-term, I don't know about you, but highly unlikely for me. So, what do we do? The key to carbs is, be picky, you deserve the best of everything and that includes what you eat. Aim for higher fiber options, and less processed options. For example, instead of white bread go for the whole grain versions, ask yourself did this have to go through some processing to become this colour? If the answer is yes, it's best to keep it to a minimum. But why are higher fiber options better you ask? First, more fiber increases satiety (see a theme here?) the fuller you are at mealtimes the less likely you are to snack in between. Second, fiber works to slow down your digestion, which slows down the rate of absorption of the food, this ultimately reduces the impact of food on your blood sugar, again allowing you to maintain a steady blood sugar.

August 8 Chinatown



Review

Sara Rough, 2T6



Overview

Is one of your resolutions this year to be adventurous and try new places to eat? How about going to lunch or dinner with friends after some stressful exams? And are you looking for the best place to eat while on your student budget? If you answered yes to any of those questions, then this review is for you! August 8 Chinatown is a little restaurant located at 331 Spadina Ave and serves both sushi and dim sum. The best part is, they offer an all you can eat lunch and dinner menus! Dinner is pricier at \$38.99-41.99 per person depending on the day. However, lunch is offered at the reasonable price of \$27.99-29.99 depending on the day. That's a pretty good price considering it is all you can eat and there is a variety of different foods to choose from! They also give a 10% student discount if you pay with cash. Takeout is also offered.

Rating: 9/10



Full Review

I had the pleasure of dining at August 8 Chinatown with some of my fellow 2T6's, to celebrate finishing the first week of second semester. It had been a stressful start to the second semester, so what better way to end it than with good food and good friends! The restaurant itself was small but it didn't feel tight considering there were other diners around. We were a larger group (8 people total) but were accommodated without any wait time. Our server was thorough in demonstrating how to order our food on the iPad, how long our seating time was (1.5 hours) and how we had an automatic 15% gratuity for being a large group. He also jokingly cautioned that we should order in rounds to both not feel so full and to not waste food...and let's just say we should've listened. Our eyes were bigger than our stomachs because we ordered quite a few things! The menu

offered a variety of dishes including tempura shrimp, mango sushi, butterfish sushi tacos, miso soup, B.B.Q pork buns and spring rolls. We went through the large menu and finally made our decisions on what to order. Our food came out in a timely manner, being batches depending on what was made to order first. The food was steaming when it got to our table and each dish was flavourful! Some of my personal favourites included the veggie sushi pizza, salmon sashimi, deep fried shrimp dumplings and the steamed pork dumplings. Also, the wait staff were very organized and attentive. I only have a few negative things to say about our experience. The first being we didn't communicate what and how much we all ordered. When the food came out it was hard to decipher who ordered what and we had to make sure we ate all the food that was ordered. Let's just say we will communicate better next time we go! The second thing would be the lack of wheelchair accessibility. The restaurant itself is one floor, making it wheelchair accessible. However, the washrooms are located downstairs making the restaurant not wheelchair accessible if that is a deciding factor for your accompanying party. Overall, dining at August 8 Chinatown was a great experience and I would go back if I was craving simple sushi or dim sum. It provided a variety of different dishes that would appeal to anyone and the quality of service was good.



Pictured: Top-Deep fried shrimp dumplings, shrimp and veggie spring rolls and mayo; Bottom-Popcorn chicken with spicy mayo.

COFFEE MOODS



RUBY UNG, 2T4

If you're like me and you love to drink coffee, here is a list of my coffee moods. I am by no means a coffee expert so don't expect some high class review!



1 KEURIG COFFEE

Ever since I got my Keurig, this is pretty much the coffee I drink every day. It's convenient and quick! I get up and after I finish my morning routine, I make my keurig coffee ASAP. If I need another pick-me-up after a long day at work or if I'm studying, I make another keurig coffee. It's more on the pricier side but I guess I justify it by saying it's cheaper than purchasing coffee from a café. The K-Cups that I like to use are the Kirkland breakfast blend, Starbucks blonde roast, McDonald's premium roast coffee, and the Marley Buffalo Soldier - medium dark roast.



2 INSTANT COFFEE

I don't do this all the time but if I'm really lazy and I want an iced coffee super quick, I take 1 packet of a 3 in 1 coffee + 1 spoonful of regular instant coffee, mix it together in some hot water and add ice + milk after. That's it! I need to add the extra spoonful of regular instant coffee just because the 3 in 1 coffees are too sweet for me. Super quick and easy!

3 BUYING COFFEE



This is me when I'm so exhausted at work or school despite having my keurig coffee already and I can't make another keurig coffee. I will buy a medium or large coffee with 1 milk wherever is most convenient. Yes, I drink Tim Hortons, McDonald's (honestly it's amazing), Starbucks, Second Cup, ANYTHING because coffee is life. If I feel like I want to treat myself, I'll get an iced latte at any coffee shop, or my go to drink at Starbucks is an iced shaken espresso with vanilla syrup. If it's my birthday drink at Starbucks I go all out and get a venti iced shaken espresso with light ice, substitute oat beverage, add extra salted caramel cream cold foam, 8 shots of espresso, 8 shots of vanilla syrup - so they probably hate me oops!

Basically, coffee is why I'm alive. During convocation, I plan to dedicate my degree to coffee. On my bachelorette night, I plan to invite 5 cups of coffee. And in my will, I leave all my worldly possessions to my Keurig and penguins at home :)

A Foolproof Carrot Cake Recipe

Aqsa Ali, 2T5

Do you ever feel tired of the artificially flavored carrot muffins at your local grocery store? Are you looking for a chance to give baking a try but can't find a recipe that is easy enough to guarantee your kitchen won't be set on fire? Well fret not, I have a carrot cake recipe that will guarantee you'll end up with a moist and yummy cake.

Ingredients:

1. 2 cups (250 grams) all-purpose flour
2. 2 teaspoons baking soda
3. 1/2 teaspoon fine sea salt
4. 1 1/2 teaspoons ground cinnamon
5. 1 1/4 cups (295 ml) canola or other vegetable oil
6. 1 cup (200 grams) granulated sugar
7. 1 cup (200 grams) lightly packed brown sugar
8. 1 teaspoon vanilla extract
9. 4 large eggs
10. 3 cups (300 grams) grated peeled carrots (5 to 6 medium carrots)
11. 1/2 cup (65 grams) raisins

For Frosting:

1. 8 ounces (225 grams) cream cheese, at room temperature
2. 1 1/4 cups (140 grams) powdered sugar
3. 1/3 cup (80 ml) heavy whipping cream

Directions:

• Batter

1. Lightly grease two 9-inch round cake pans and line the bottom with parchment paper (lightly grease the parchment paper too).
2. Heat the oven to **350 degrees Fahrenheit** (176C).
3. Add the flour, baking soda, salt, and cinnamon in a medium bowl and whisk it all together until very well blended. Put this through a sifter 1-2 times. These are our dry ingredients.
4. In a separate bowl add the oil, granulated sugar, brown sugar, and vanilla and whisk until smooth-ish.

Add the eggs, one at a time, whisking after each one. This is our wet mixture.

5. Switch to a large rubber spatula. Add the dry ingredients in three parts to the wet mixture, gently stirring until they disappear and the batter is smooth.

6. Stir in the carrots and raisins (pineapples and nuts are also optional).

• Baking the Cake

1. Divide the cake batter between the prepared cake pans.

2. Bake until the tops of the cake layers are springy when touched and when a toothpick inserted into the centre of the cake comes out clean, 35 to 45 minutes.

3. Cool cakes in the pans for 15 minutes, then carefully turn the cake layers out onto cooling racks. 4. Remove the parchment paper and cool completely.

5. If you find that the cake layer is sticking to the bottom of the pan, leave the cake pan upside down for a couple of minutes.

• Making the Frosting

1. While the cakes bake and cool, make the frosting. Start with whisking the cream cheese and add the powdered sugar a little at a time until it's smooth. Next add the whipping cream and beat the cream into the cream cheese and sugar until it becomes more thick and creamy.



PHARMA PHARMA

HUY PHAM, 2T4

Here I come, the P-H-R-M-D. What's this profession called?
I'm a PHARMACIST
Here I come, the P-H-R-M-D.
Hey baby, Are you ready?

Go-Go-Go-Go, Can't stop the pharmacy
Go-Go-Go-Go, Come join the phamily
Go-Go-Go-Go, These tablets makes some massive noise
Go-Go-Go-Go, This workflow, come on

You know that the risk is minimum, I am more trusted than anyone
What you've got to do is search my name,
Check it out my special P-degree
Wiggle wiggle it with the techs,
See those pills move and groove on the floor
Stopping that super adverse drug reaction you feel inside
The prescriptions take control of the night
Can do this all night long Feeling so right
Yes, that's your unlimited force

Hear the rhythm of the metformin Stresses are gone? Pharmacy night
We call it "Pharma Pharma"

Go-Go-Go-Go, Can't stop the pharmacy
Go-Go-Go-Go, Come join the phamily
Go-Go-Go-Go, These tablets makes some massive noise
Go-Go-Go-Go, This workflow, everybody go

The hell of pharm school, Got to push through hard 'tween quizzes and exams
What a lovely discipline. Efficacy, safety I know what to say
Tox to PK, MTM, PCT, I don't feel tired
No wonder I can't tell, This is the pharma white coat

Is this all you've got inside?
'Cause surely it'll give out a glorious light
Break down the cap and you'll "full dive"
Now open your eyes for the title who...

Here I come, the P-H-R-M-D. What's this profession called?
 I'm a PHARMACIST
 Here I come, the P-H-R-M-D. What's this profession called?
 I'm a PHARMACIST

P.O.P. like an ace! P.C.P. for every case!
 Pick up line 101. Answer till the speaker breaks ha-ha
 Limited from 1990, Expanding into 2023
 A persistent endless routine. No! I'm not gonna stop it

The prescriptions take control of the night
 Yeah That's right yo Feeling so right
 Now, feel that ignition starting up in your mind
 Hear the rhythm of the metformin Who's night is it? Pharmacy night
 We call it "Pharma Pharma"

Go stop this heart beating fast
 Oh lol, feel the pressure of examination
 You and I will make a "full dive"
 We have all night long baby let's do pharmacy

Say "D" Say "PharmD"
 Everybody wave your hands side to side and make a big scream!

Here I come, the P-H-R-M-D. What's this profession called?
 I'm a PHARMACIST
 Here I come, the P-H-R-M-D. What's this profession called?
 I'm a PHARMACIST

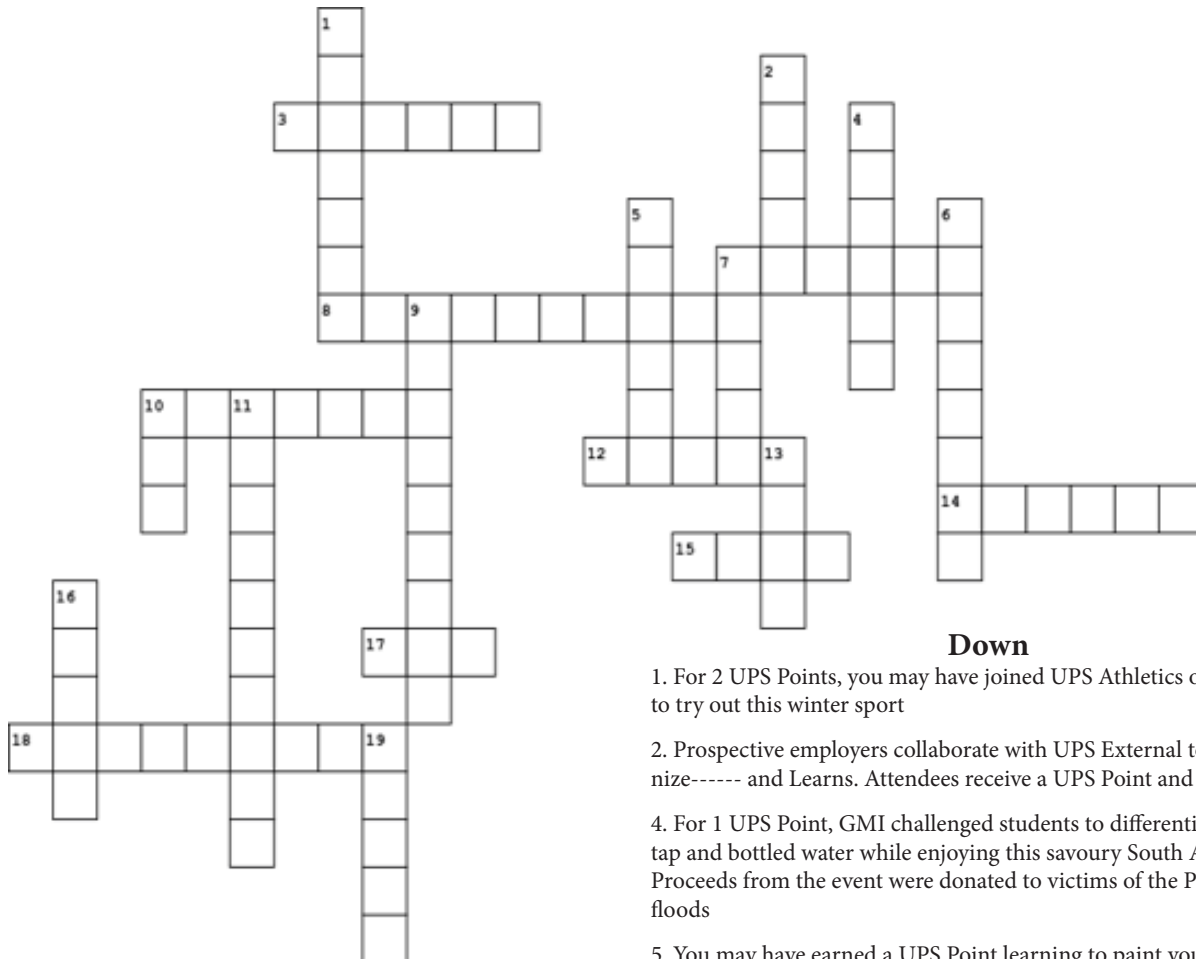
Go-Go-Go-Go, Can't stop the pharmacy
 Go-Go-Go-Go, Come join the phamily
 Go-Go-Go-Go, These tablets makes some massive noise
 Go-Go-Go-Go, This workflow, everybody go



A Term in UPS Points

Ayman Lakhani & Hamza Farah, 2T5s

re-live some of fall term's best events by completing the crossword below!



Across

3. All aboard! For 2 UPS Points, join the faculties of pharmacy and dentistry for UPS' annual boat ____
7. 2T5s could earn up to 8 UPS Points for helping plan this week-long event for the class of 2T6!
8. COMPPS invited students to compound this sweet treat for 1 UPS (2 words)
Point
10. For 1 UPS Point, teams of 4 worked together to carve their best design into this orange species of squash
12. Alongside 17 Across, this organization welcomed students back to school with a barbecue, ice cream, and 1 UPS Point!
14. For 1 UPS Point, students tuned in to Dr. Debra Sibbald for an event about minor ailments hosted by this club
15. This club provided the perfect opportunity to passively earn 1 UPS Point while attending their study hall!
17. See 12 Across
18. Students who attended PDW in this city received 4 UPS Points!

Down

1. For 2 UPS Points, you may have joined UPS Athletics on a Saturday to try out this winter sport
2. Prospective employers collaborate with UPS External to organize----- and Learns. Attendees receive a UPS Point and a meal!
4. For 1 UPS Point, GMI challenged students to differentiate between tap and bottled water while enjoying this savoury South Asian snack! Proceeds from the event were donated to victims of the Pakistan floods
5. You may have earned a UPS Point learning to paint your name in Arabic at a social event hosted by this club!
6. According to the UPS Constitution, performers at this event are rewarded 3 UPS Points
7. This club provided UPS Points for participation during their annual AMS Awareness Week
9. Whether you submit an article or a crossword to this newsletter, all contributors receive 1 UPS Point!
10. For 1 UPS Point, this club sold Halloween Candy Grams, the proceeds of which went to SickKids Hospital!
11. PSWH provides 1 UPS Point per month to students who interact with their "Monthly
13. This organization provided 1 UPS Point for participating in their Healthy Active Living Campaign
16. This club promotes mindfulness (and UPS Points) on select Mondays
19. For 1 UPS Point, this club promoted men's health during Movember with their Wall of Moustaches

Medication Word Search

Kay-Ann Ormsby, 2T5

N M O R P H I N E U G G L I P I T O R L
V U A B I L I F Y L Q H H E X A T Q R B
Z Q Z O Q B Z E X H O W Y P C V R F K P
Y T R M P M G J D O X E D F H O A Y A L
R I V O A T L A B M Y C R X M Z Z Q U C
W X V B V J V O P N C L O J I B O G J C
T R A M A D O L J A O W C B I A D D L N
Y B U P R O P I O W N T H B M C O R M E
T Q S R R I W K E W T T L G P T N K A F
F R M O C A B N E Q I S O N W R E S P O
A I E Z I X E I V C N C R P W I M S E L
H K U A A F N T C X U G O I R M I H Z C
R X D C L L A N R E V W T E H A G M A A
E N O S I N D E R P C Z H N J F Z Z R B
N S H F S K R P W C F X I Y R Z E O O U
O Q G H Q Q Y A E N O D A H T E M N L H
Y E K Q T B L B L E O I Z H C L G D K E
Q X Z D U T K A B H W W I E P S T W Z G
V U K C G X V G E N S F D B U T L V P F
N E F O R P U B I G F J E W P T H Q Q B

ABILIFY
BACLOFEN
LIPITOR
BUPROPIO
OXYCONTIN
PROZAC
TRAZODONE

HYDROCHLOROTHIAZIDE
BACTRIM
LORAZEPAM
MORPHINE
PANTOPRAZOLE
TRAMADOL
CYMBALTA

IBUPROFEN
BENADRYL
METHADONE
CIALIS
PREDNISONE
GABAPENTIN

SHOUTOUT TO CAPSI FOR
HOSTING AN AWESOME
PDW!!

HAMZA MAKES MY LIFE LESS
DOWN BAD EVERY DAY

AYMAN BRINGS JOY TO
MY LIFE EVERY DAY

SHOUT OUT TO SAID FOR
BEING SUCH AN
INSPIRATION TO ME

SHOUT OUT TO NAT CHAPUT
FOR BEING SO HARDWORKING
AND MOTIVATED!

JON SCODELLER IS THE
CUTEST GUY IN 2T5 DON'T
@ ME.

SHOUTOUTS!

SHOUTOUT TO AYUB'S WATCH
FOR READING HIS MESSAGES

#TEAMTANG 🍊

CHRISTINA FOR BEING
THE HINATA TO MY
NARUTO

HELEN FOR THE
AMAZING NOTES!

KOYA FOR HER PRETTY
SMILE

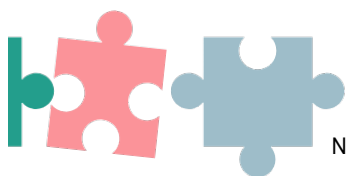
SHOUTOUT TO AQSA FOR
ALWAYS BEING AN AMAZING
FRIEND <3!

SHOUTOUT TO OUR UPS CAPSI REPS!
COORDINATING ALL THE DELEGATES
DURING PDW 2023 WAS NO EASY
FEAT!

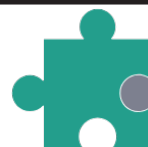
DHRUVI PATEL

ALESSANDRA TOSO

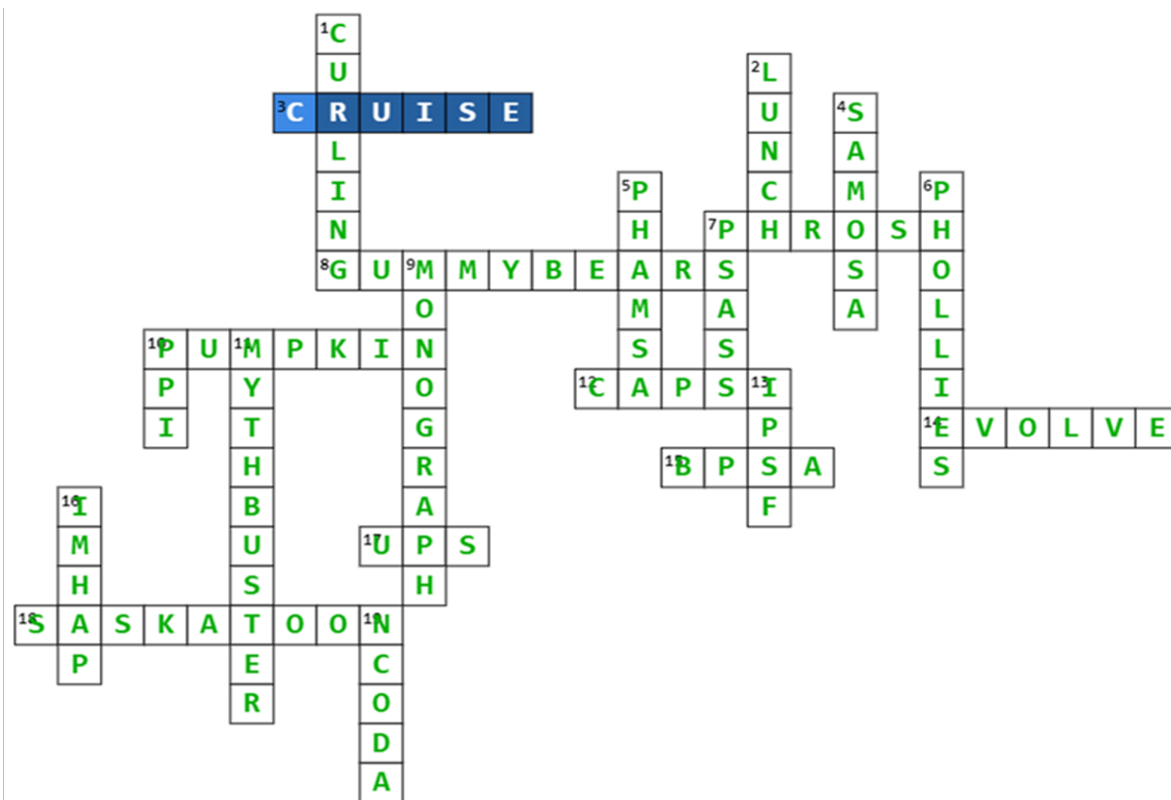
EMILY BRUNI

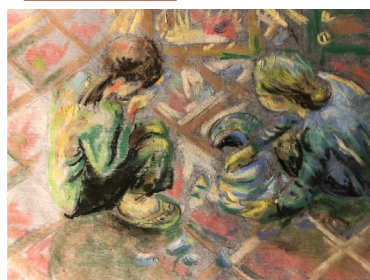


Solutions

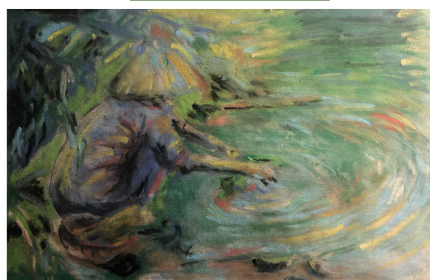


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 V U A B I L I F Y L Q H H E X A T Q R B
 Z Q Z O Q B Z E X H O W Y P C V R F K P
 Y T R M P M G J D O X E D F H O A Y A L
 R I V O A T L A B M Y C R X M Z Z Q U C
 W X V B V J V O P N C L O J I B O G J C
 T R A M A D O L J A O W C B I A D D L N
 Y B U P R O P I O W N T H B M C O R M E
 T Q S R R I W K E W T T L G P T N K A F
 F R M O C A B N E Q I S O N W R E S P O
 A I E Z I X E I V C N C R P W I M S E L
 H K U A A F N T C X U G O I R M I H Z C
 R X D C L L A N R E V W T E H A G M A A
 E N O S I N D E R P C Z H N J F Z Z R B
 N S H F S K R P W C F X I Y R Z E O O U
 O Q G H Q Q Y A E N O D A H T E M N L H
 Y E K Q T B L B L E O I Z H C L G D K E
 Q X Z D U T K A B H W W I E P S T W Z G
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Khoa Vu, 2T3

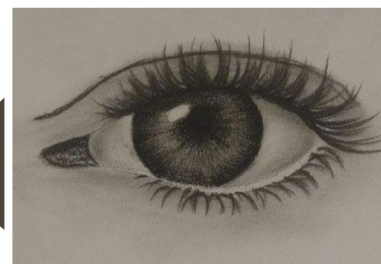


Khoa Vu, 2T3



Maryam Majeed, 2T4

Artist Spotlight



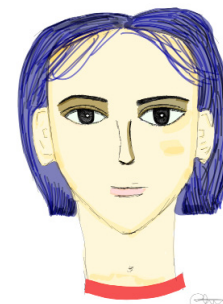
Aqsa Ali, 2T5



Purvi Mahida, 2T6



Cow on a Picnic
Bakhshish Brar , 2T5



Christina Kang, 2T5



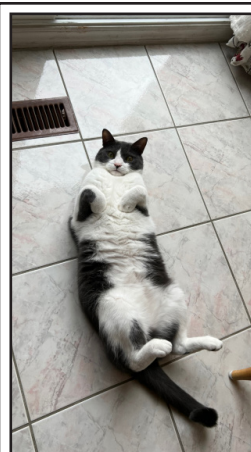
PETS OF PHARMACY



Potato
Lina Lo, 2T5



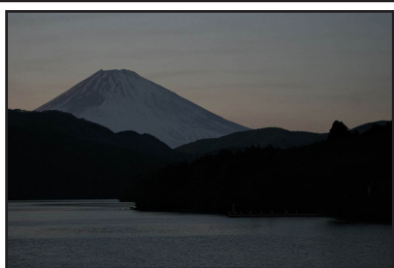
Cody
Kelly Yeung, 2T4



Earl
Kelly Yeung, 2T4



Jax
Kelly Yeung, 2T4

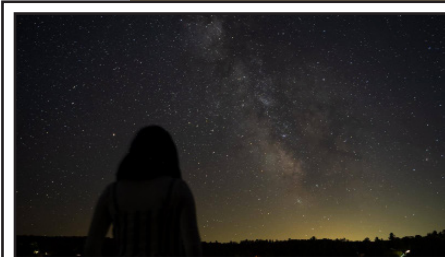


Mt Fuji
Misha Krivkyh, 2T3



Behind the Lens

PHOTOGRAPHY



Samra Ghazi, 2T4



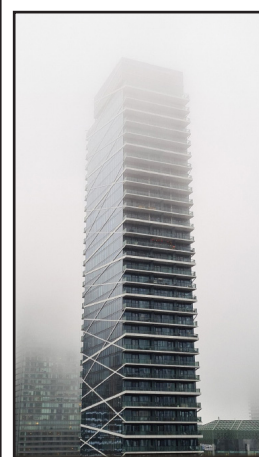
Downtown Toronto
Radhika Thakkar, 2T6



**College of Pharmacy and Nutrition,
University of Saskatchewan**
Amar Deonandan, 2T3



Deep Shah, 2T6



Brendan Lim, 2T5



Cameron Ho, 2T3



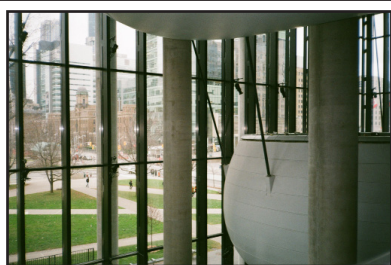
Cameron Ho, 2T3



Cameron Ho, 2T3



Cameron Ho, 2T3



Cameron Ho, 2T3



Cameron Ho, 2T3



Brendan Lim, 2T5