

MONOGRAPH

VOLUME 23 ISSUE 2



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the hunt for mildred
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The Monograph Team



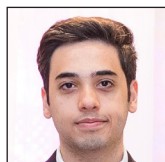
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Missed you, Pham!

As we wrap up the year of 2021, we're excited to present to you the very special holiday issue of the Monograph!

This issue features warm-hearted submissions, including a letter from the 2T4 council. Explore various aspects of pharmacy careers in industry and hospital with APPE experiences from David Czosniak (2T2), and an interview with a SickKids hospital resident.

Whether you feel like staying home or embracing the wintry weather, our Monograph Reps Joham Ahmad (2T4) and Ashish Gante (2T5) got you covered with holiday activities you can do this winter break. This issue also includes reviews and recommendations of fragrances, games, anime, and more! Challenge yourself with chin-scratching riddles from Mackenzie Richardson (2T5), as well as holiday-themed puzzles from Shaista Malik (2T2) and Maira Hassan (2T4).

We have another scavenger hunt for this issue, so check out your class Facebook page or the Monograph Instagram for the link to enter the raffle for 1 of 5 \$10 gift cards!

As always, we'd like to send out a warm appreciation to all who contributed to this issue!

Interested in contributing to the Monograph? Reach out to your Monograph Reps, and stay tuned for the next Call for Submissions in 2022 (Can you believe it?!).



Have you ever seen it snow in PB? We have.

Sally Jeon and Eulaine Ma
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UPS Address

Hello Pharmacy,

Congratulations on surviving the midterm season! We have had an exciting semester so far from Phrosh to our spooky UPS Halloween Week to CAPSI competitions and everything in between. Just recently, we took a much-needed break from the midterm grind to enjoy some amazing talented performances from your pharmacy peers at Phollies 2021! Shout out to your amazing UPS Events Co-Directors Garrett Myles and Sandrine Tardiff, amazing MCs Al-amin Ahamed and Megan Terpstra, and of course the incredible performers that really showed... Pharmacy's Got Talent!

The talent does not stop there as we have also seen amazing contributions from our student leaders in the varying clubs and councils who persevere through this transition period, navigating restrictions to ensure that events are still held for students to destress from academics and feel closer as a phamily. Despite the challenges this year may bring, without a doubt the student involvement in our pharmacy community is outstanding and we look forward to seeing all the amazing initiatives coming up this winter! As the fall term comes to an end and we begin the final exam season, we want to remind you that you are not defined by your grades - make sure to eat, sleep, take physical activity breaks, and overall take care of yourself, because you are so cared for by your loved ones and phamily.

And we are so excited for the holiday season that comes right after exams! From the bottom of our hearts, we wish you nothing but the best in the upcoming exams and a happy holiday season! We look forward to seeing you all again in January where we will begin yet another adventure.



"I have no idea what I'm going to do tomorrow..."

- Larry Daley, *Night at the Museum*

"How exciting!"

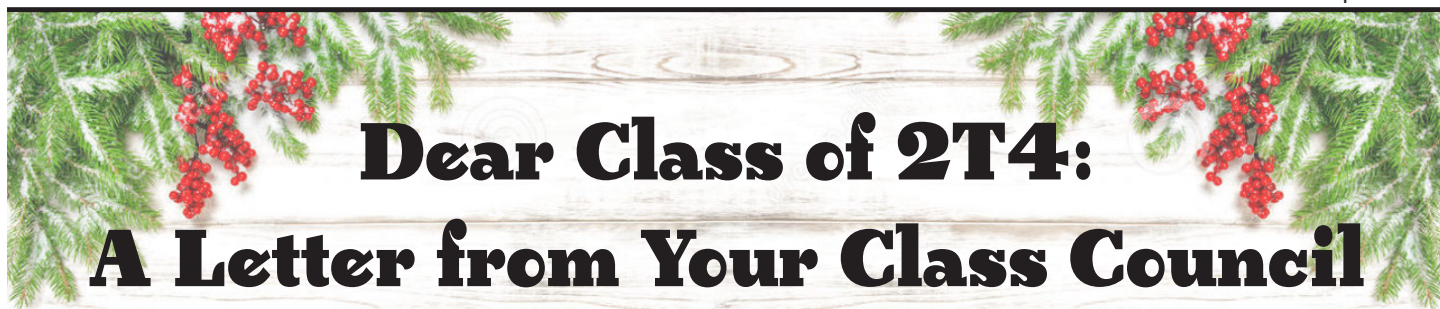
- Robin Williams



Christine Tan & Chelsea Alder

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Dear Class of 2T4: A Letter from Your Class Council

Hello fellow 2T4's!

It's your Class Council here, writing to you to congratulate you on persevering through the first official semester transitioning back onto campus following an entire year of online classes. How are you feeling? We wanted to take this opportunity to check in, and remind you that we are collectively proud of and rooting for our entire cohort.

To be on the same page, we are proud of how...

- We met one another online in the depths of a global pandemic in 2020, and one we are continuing to endure.
- We worked hard and finished our first year of Pharmacy school together, and saw the brighter days of returning to campus in second year (although it sure looks a bit different than we'd anticipated - not that we truly know the difference). Stronger. Together.
- We stepped into B250 with eager anticipation and maybe a bit of anxiousness as we looked around to see our peers who, at one time out of sight, are now treading the water (sitting) alongside us.
- We have each been called on to speak out loud away from the anonymity of Zoom learning in PHM202 (and have done a great job at cracking the cases while we were at it).
- We have played a ping-pong game or two in the lounge, had a coffee or two or five in the Atrium, and have stuffed our lockers with our lab coats and safety goggles for PHM241.
- Throughout the term, we have submitted 6 assignments, attended 8 workshops, participated in 11 MTM2 labs, written 7 midterms, 3 pharmaceutical labs (we toast to your perfectly shaped suppositories!), and the daily commute back onto campus, which for some of us is a significant task within itself. Kudos to you for getting out of bed, putting on pants, and trekking all the way to class! (Not easy, we know).

... You have so much to be proud of, and so much more to look forward to as we continue this journey - together. As we look ahead to the first finals season of Year 2 of our Doctor of Pharmacy program, and the first of in-person learning of our cohort, know that each and every individual seated in those exam rooms and preparing with you are your Phamily. And truly, our cohort is something special (although we may be a bit biased). One may say a cohort of legend, forever ingrained in the history of U of T Pharmacy as the cohort that began apart but came together in ways no one could have predicted.

So cheers to us, the Legendary 2T4 Class of PharmD Students! Onwards and upwards as we take on the chapters that lie ahead (including some surprises we have up our sleeve to heat up the Winter Term... Frost Fun, anyone?).

Remember to take care of yourself, stay hydrated, prioritize your sleep and wellbeing, and lean on your classmates and class council. We are better, together.

With admiration and camaraderie,

Kristy

On behalf of your 2T4 Class Council

[Kristy Scarfone, Rachel Ma, Sanaz Chenani,
Tara Smeriglio, Stephanie Rosenbaum, Clara Dai,
Valentina Zapata, Rafi Mahsin, Pamela Molina,
Kelly Yeung, Joham Ahmad, Tracy Liang]

10 Questions with a Hospital Pharmacy Resident

Han Byul Kang

By: Al-amin Ahamed, 2T4
CSHP Communications Committee Rep



This past summer I had the amazing opportunity to complete my EPE-1 at The Hospital for Sick Children! There I was able to meet so many pharmacy professionals and really immerse myself into the field of hospital pharmacy. In particular I was able to meet Han Byul Kang who at the time was a hospital pharmacy resident. Fortunately, I was able to interview her regarding her journey and interest in the field. Since then, Han has completed her residency and has taken a role as clinical pharmacist at SickKids.

1. Tell us a bit about yourself (work experience, past education, current work location).

I completed my undergraduate degree in Biochemistry at McMaster University with a focus on drug development. I realized I wanted to play more of a frontline role which led me to pursue my PharmD at University of Toronto. Then came the question every pharmacy student comes across near the end of their education

– what area of pharmacy should I practice in. I used my experiential rotations to address this question and came to the conclusion that hospital pharmacy was the area I wanted to grow and practice in as a clinician, an educator and a researcher. I am currently completing a hospital pharmacy residency at The Hospital for Sick Children (SickKids) for this reason.

2. When and why did you choose to pursue a residency program?

I was inspired by many of my preceptors who were advancing pharmacy practice and improving health outcomes at a systems level through research and education while practicing as a clinical pharmacist. Since a residency program encompasses training in all three aspects of hospital pharmacy, it aligned with my career goals. Out of all the residency programs, SickKids was my number one choice due to my interest in paediatric practice which is full of challenges such as ever-evolving pharmacokinetics and pharmacodynamics.

3. What is the general structure of your residency? Did you take on any elective rotations?

The residency program at SickKids focuses on building a good foundation of knowledge and skills in the beginning through rotations in Medication Use Management, Drug Information and Pharmacokinetics. Then you move on to clinical rotations with a wide array of choices with General Paediatrics being the only mandatory one. I chose my elective rotations based on my interests: Solid Organ Transplant, Oncology and Bone Marrow Transplant, Cardiology and Cardiac Critical Care, and Neonatal Intensive Care.

For the Education and Research components of the program, residents create and deliver educational materials to a variety of audiences and undertake a research project throughout the year.

4. What does a typical day look like for you?

I come in early to review and work up patients in preparation for the morning rounds during which I actively participate in discussions and collaborate with other healthcare professionals to optimize patient care. Throughout the day, I would follow up on patients and attend to tasks related to patient care such as medication teaching, answering drug information questions and reviewing drug levels. I then meet up with my preceptor(s) for therapeutic talks and patient reviews. There could also be grand rounds, meetings, and presentations scheduled throughout the day. Outside the official work hours, I complete my readings and work on any presentations or projects I am involved in.

5. Would you mind sharing a bit about the project you're doing/have done as part of your residency?

Mycophenolate mofetil (MMF) which is hydrolyzed to active mycophenolic acid (MPA) is one of the adjunct immunosuppressants used to prevent graft rejection in paediatric renal transplant recipients. The area under the concentration-time curve (AUC) is the parameter used for MPA therapeutic drug monitoring; however, its use beyond the first three months post-transplant lacks evidence, especially with regards to the range of AUC that should be targeted. To narrow this gap in the literature, I am conducting a retrospective chart review to characterize patients who have had their MPA AUC profiled > 3 months post-transplant.

In addition to the main research project, there are small projects that come up with each rotation such as conducting a formulary review, updating renal dosing regimens for antibiotics on the formulary, and building a biosimilars assessment framework to name a few.

6. Is there anything you particularly love about your residency?

Learning and practicing in authentic clinical environments with guidance from multiple role models is what I love about residency. It provides you with a safe environment to apply the knowledge and skills you've gained through previous rotations and readings. Moreover, seeing how my preceptors approach a problem has been valuable, as it helped me develop my own process which I will continue to refine throughout my career.

7. Is there anything you find particularly challenging in your residency?

In the beginning, I found maintaining a healthy work-life balance challenging. In addition to clinical rotations, the residency program comes with an abundance of opportunities in Education and Leadership. As the residency training is limited to one year, you want to maximize your learning and take part in various projects and initiatives, but it is also important to take care of yourself. What I've learned is that I need to pace myself to prevent burnout because residency is a marathon, not a 100m sprint!

8. What's your plan after completing residency?

I will continue to develop my practice as a clinical pharmacist not only through working but also by practicing continuous learning. I am starting in an advanced paediatric cardiology program in the coming fall and will be on the lookout for additional learning opportunities to grow as a clinician. As you may have guessed from my residency project, I am interested in pharmacokinetics and pharmacodynamics as well as pharmacogenomics. I hope to take part in research projects pertaining to these areas and bring it back to patient care.

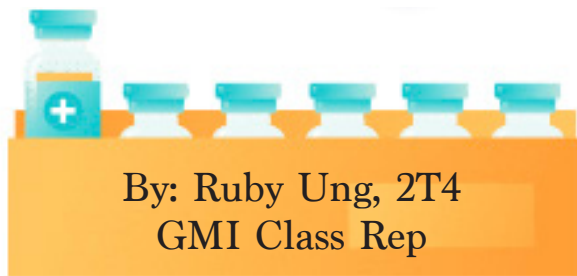
9. How do you think hospital pharmacy is unique from other areas of pharmacy?

I love the collaborative culture in hospital pharmacy. Whether it's in clinical practice, education, or research, you will always find yourself working in teams. Learning and collaborating with other healthcare professionals in addition to pharmacists helps me broaden my perspective and encourages me to further advance my knowledge.

10. Finally, is there any advice you would give to current students who wish to pursue hospital residency?

Treat your experiential rotations in Year 4 as your own version of residency and maximize your learning. What you put into it is what you'll get out of it. Regardless of the nature or area of the rotation, there is always something you can gain as a student and future clinician. This will also allow you to test yourself out to see whether residency is the right path for you.

Global Vaccine Distribution



Global Medicine Initiative (GMI) at the Leslie Dan Faculty of Pharmacy is a student-led initiative focused on advocating health access to medicine at the local and global level. We are passionate about current issues related to access to pharmaceutical care, and seek to increase education and awareness by means of journal clubs, speaker series and documentary film screenings. We foster lifelong commitment to involvement in international health by facilitating pharmacy student experiences abroad to under-resourced nations that lack access to essential medicines or advanced pharmaceutical care.

Vaccine inequity has always been a pressing issue, but with the COVID-19 pandemic, it has become even more evident than ever. The pandemic has affected both developed and developing countries, with the United States having one of the highest COVID-19 cases at one point. However, once the COVID-19 vaccines

were available, the United States were able to reduce their numbers significantly, similar to other developed countries. To this date, Canada has almost 3 in 4 of their entire population fully vaccinated, whereas developing countries such as Africa only have 1 in 20 of their entire population fully vaccinated. In fact, Canada has begun to administer third doses, whereas half of the world is still awaiting to receive their first dose of a COVID-19 vaccine. Unfortunately, the current solution appears to rely on developed countries donating vaccines to developing, less fortunate countries. However, Canada will be one of the developed countries that will help with the global vaccine distribution. Canada will be donating 10 million doses of the Moderna COVID-19 vaccine to the COVAX vaccine sharing facility along with another \$15 million to help make mRNA vaccines in Africa. It is important for us to bring awareness to this topic as we know that vaccines are the key to resolving this pandemic, and for future diseases as well.



Global Medicine Initiative



Colourful Compounding for the Holiday Season

by Sasha Mohindra, 2T5, COMPPS 2T5 Representative



The Holiday Season is finally upon us! It is the reds and greens that line candy canes and decorations that illuminate houses inside and out that show us that colours are what make the holiday season so enjoyable! Similar to the Holiday Season, there are many compounded suspensions that are also colourful! Suspensions are common for patients that cannot take the dosage form of a capsule or tablet, need a particular dose or need a combination of ingredients.

Starting with the colour pink, a medication that can be compounded into a liquid suspension is lansoprazole 3 mg/mL, commonly used for the treatment of a variety of ulcers. It is made using a combination of lansoprazole capsules, sodium bicarbonate 8.4% solution and ORA-Blend, and lansoprazole 3 mg/mL's colour comes from the 'pink' suspending vehicle ORA-Blend. This addition adds a sweetened, more tolerated taste to the medication for patients. Similarly, medications encapsulating white powders, or white tablets like terbinafine or metolazone, will often produce a similar pink colour when mixed with Ora-blend. Another common pink suspension is the combination of omeprazole and sodium bicarbonate 8.4%, omeprazole 2mg/mL which is used to treat GERD.

Green is a particularly rare colour to encounter when compounding, however, one suspension that has a dark green appearance is propranolol 5 mg/mL. Composed of propranolol hydrochloride tablets and ORA-Blend SE, the colour is attributed to the green shade of the tablets.

Moving on, a red, almost sunset-coloured compound is magic mouthwash. Magic mouthwash is a medication commonly used for patients undergoing chemotherapy and experiencing mouth sores. Although there are many ingredients that can be added, some common ones are nystatin, hydrocortisone, diphenhydramine, lidocaine and tetracycline. The combination of antibiotics, antifungals and corticosteroids makes this mouthwash important and effective for patients experiencing mouth sores/pain. While combining the ingredients, this suspension often appears like a 'sunset' of colours and eventually forms a red liquid. Another red suspension is rifampin 25 mg/mL, an antibiotic used to treat tuberculosis. It combines the red capsule rifampin and ORA-Blend to create a dark red colour.



It is hard to miss the bright colour of orange! The suspension of sulfasalazine 100 mg/mL combines sulfasalazine tablets and ORA-blend. The orange colour comes from the yellow-orange sulfasalazine tablets which when mixed with the suspended agent results in the orange product. As well, some suspensions are yellow, such as nitrofurantoin 10 mg/mL or levodopa/carbidopa 5/1.25 mg/mL, or a peach colour such as clopidogrel 5 mg/mL.

In essence, the colours of compounding bring into perspective the range that compounded liquid suspensions can have. From pink to red, yellow to orange, to even green, colourful compounding perfectly encompasses the holiday season!

Reference:

<https://www.sickkids.ca/en/care-services/for-health-care-providers/compounding-service/>



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Pharmacist's Expanding Scope of Practice Amidst the Pandemic

Veronika Polanska, 273



Pharmacists have always been one of the most accessible health care providers. This has been proven time and time again during the pandemic as primary care providers have become rather inaccessible during the past year.

Pharmacists have been at the front-line answering questions about COVID-19, administering vaccines, providing medication recommendations for patients, and other roles included under the expanded scope of practice. One prime component of our expanded scope of practice that has been valuable during this pandemic has been the pharmacist role in renewing and adapting prescriptions.

So what exactly is a pharmacist's role in renewing and adapting prescriptions ?



Pharmacists are able to renew medications for the purpose of continuity of care. Prescriptions can be renewed for the quantity that was originally prescribed or for a one-year supply (whichever is the lesser of the two). Pharmacist scope of practice also includes adapting medications, which comprises changing a patient's prescription in terms of the dose, regimen, and/or dosage form. These two areas of a pharmacist's role enable patients to get their medications as soon as possible without needing to contact their primary prescriber to renew their prescription or to write a new prescription with the desired changes. Medications that pharmacists were unauthorized to renew or adapt were controlled drugs and substances. However, due to pandemic, in order to ease patient access to their controlled medications and optimize their continuation of care, Health Canada issued a class exception to the Controlled Drugs and Substances Act (CDSA) that permits pharmacists to renew/adapt prescriptions for controlled substances such as narcotics and benzodiazepines.

This aspect of our expanded scope of practice is yet another example of the importance to keep expanding the scope so that pharmacists can provide the best possible and timely care to all patients. The subsequent step in advancing the role of a pharmacist are areas such as allowing therapeutic substitutions, prescribing for minor ailments, ordering and interpreting lab tests, or administering injections for patients under the age of five.

CLUBS CORNER: EVOLVE



Point-of-care (POC) testing in pharmacies: Will COVID-19 testing prompt the expansion of this opportunity?

Kari Griffiore, 2T3

The COVID-19 pandemic has accelerated the prominence of pharmacists as public health figures. Declaration of the pandemic in May 2020 prompted a call for pharmacists to step up in our role as the most accessible health care providers and help fill the gaps in care emerging in the health system. This included a prompt for both the government and OPA to consider taking the already coming point-of-care (POC) testing authority one step further to enable diagnostic testing in pharmacies. This would require additional changes to the Laboratory and Specimen Collection Centre Licensing Act (LSCCLA), giving pharmacists access to labs and the ability to interpret lab results. Beginning in September 2020, community pharmacists across Ontario began offering COVID-19 testing to expand capacity for testing. COVID-19 testing is only the beginning of what is to come in the area of POC testing.

POC testing empowers clinicians to use effective, fast technology to aid their decision making at the “point-of-care” to improve patient health. Possible POC tests that have been discussed for implementation in the pharmacy setting include lipid panels, HbA1C tests, thyroid hormone, INR, strep, and HIV testing, to name a few. A1C testing has been recently implemented in

many pharmacies across Ontario and has been shown to have a positive impact on outcomes such as increased lifestyle counselling and increased medication optimization. These services are addressing gaps in our health care system and facilitating greater access to care for patients.

The future of POC testing is an opportunity to be part of the transformation of health care delivery and to complement what we already do in medication management. Timeliness to care and accessibility of results is a growing focus within health care and we as pharmacists have a responsibility to be present in this space.



Tramadol as the new narcotic drug: Context and consequences

By Huy Pham, 2T4

On March 31, 2020, the Government of Canada announced an amendment to the Controlled Drugs and Substances Act (CDSA), effectively designating tramadol as a Schedule I substance, along with other opioids such as morphine, fentanyl, and methadone. The goal of these amendments according to the government is to “help to mitigate the risk of problematic tramadol use emerging as a significant threat to the health and safety of Canadians”.¹ This news has received some praise from the CPhA (Canadian Pharmacists Association), who “welcomes the Government of Canada’s announcement to reclassify tramadol as a Schedule 1 narcotic”.²

Tramadol acts as an agonist to the μ -opioid receptor (MOR) (with significantly lower affinity to the κ - and δ -opioid receptors), while also inhibiting the reuptake of norepinephrine and serotonin. Both of these mechanisms are responsible for analgesic activity. Tramadol is hepatically metabolized through demethylation (the removal of methyl groups). The primary metabolite is O-desmethyltramadol through CYP2D6. This metabolite has a significantly greater potency than tramadol (analogous to the relationship between codeine and morphine) and may be further metabolized into the less active N,O-didesmethyltramadol. Together, these products interact synergistically with the parent compound to exert opioid-induced analgesia.^{3,4} As of now, tramadol is available in 35 pharmaceutical products in Canada, either as tramadol alone or in combination with acetaminophen. The indication of tramadol is the management of pain that is moderate to moderately severe in intensity. Tramadol is the fifth most prescribed opioid and is one of the six opioids (the others being codeine, hydromorphone, oxycodone, morphine, fentanyl) that contribute to over 98% of all Canadian opioid prescriptions from 2015 to March 2020.¹ Some frequent adverse reactions associated with tramadol include dizziness, nausea, headaches and constipation, as well as the more severe effects of seizures, serotonin syndrome if used with a serotonergic drug, as well as respiratory and central nervous system depression.^{5,6}

These regulatory changes were made as a response to the opioid epidemic, where from January 2016 to December 2020, 21,174 Canadians died of apparent opioid toxicity and 24,671 were hospitalized due to opioid-related poisoning. This issue is further exacerbated by the COVID-19 pandemic, where there was a 89% increase in opioid toxicity deaths from 2,722 (April to December 2019) to 5,148 deaths (April to December 2020), as well as an 61% increase in EMS responses to suspected opioid overdoses from 15,133 responses (April to December 2019) to 24,286 responses (April to December

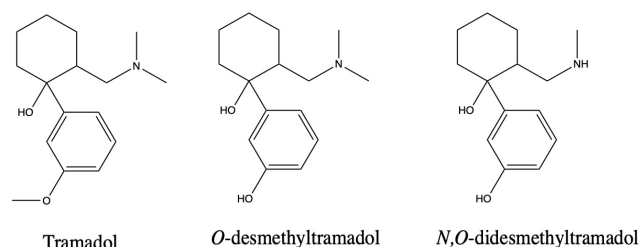
2020).⁷ Though tramadol is not a significant contributor to the epidemic in Canada like the fentanyl analogues, there are public health concerns about the non-medical use of tramadol in Africa and the Near and Middle East, as well as a vast trafficking network from Asia.⁸

The addition to Schedule I of the Controlled Drugs and Substances Act and the Schedule on the Narcotic Control Regulations will be as follows:

Tramadol (2-[(dimethylamino)methyl]-1-(3-methoxyphenyl)cyclohexanol), its salts, isomers and salts of isomers and the following derivatives of tramadol and the salts, isomers and salts of isomers of those derivatives:

1. **O-desmethyltramadol (3-[2[(dimethylamino)methyl]-1hydroxycyclohexyl]-phenol)**
2. **N,O-didesmethyltramadol (3-[1hydroxy-2-[(methylamino)methyl]cyclohexyl]-phenol)1**

(Disclaimer: the following section contains assertions based on prior experience working at “Status Confirmation of Substances” and may not necessarily reflect the view of the Office of Controlled Substances, current or otherwise. How the reading and interpretation of the CDSA and what decisions “Status Confirmation of Substances” reached may be subject to change.)



Interestingly, the criterion includes the phrase “the following derivatives”, indicating specificity on what derivatives are captured by this Schedule. In contrast, the criteria for items for other substances such as anabolic steroids and amphetamines use the term “derivatives”, which encompasses a wider range of compounds, endogenous or synthetic. The rationale for specifying which derivatives are explicitly listed is likely based on the pharmacodynamics of tramadol and its metabolites. As stated previously, O-desmethyltramadol and N,O-didesmethyltramadol display activity at the μ -opioid receptors. In addition, the government states that “if it [N,O-didesmethyltramadol] is produced outside the body in sufficient quantities, it can be converted to [O-desmethyltramadol] through a simple chemical process”.² They may be referring to a reaction where the amine group of tramadol reacts with formaldehyde in a reductive amination reaction. Meanwhile,

the other phase I metabolites, N-desmethyltramadol, N,N-didesmethyltramadol and N,N,O-tridesmethyltramadol, lack such activity³ and are thus excluded from capture by the CDSA. In addition, unlike other items that capture MOR agonists such as item 1 (which covers morphine and codeine) item 16 (which covers fentanyl), tramadol analogues are not included in the item. This means that a phenylethyl-substituted analogue, despite having similar agonist activity at the MOR⁹, would likely not be considered a controlled substance and thus, would restrict any regulatory restrictions associated with controlled substances. If the Office of Controlled Substance (more specifically the Office of Drug Policy and Science) were to pursue the inclusion of tramadol analogues, it is likely that they will perform a review of the structure-activity relationship of tramadol and/or produce a “core structure” that includes analogues that are active at MOR while explicitly excluding the inactive metabolites of tramadol (similar to how naloxone, naltrexone, clozapine and olanzapine are explicit exceptions despite their structural similarities to morphine for the former two and benzodiazepines as a whole for the latter two). However, that is likely not a high priority given that the new psychoactive drugs of great concern in Canada are fentanyl analogues, benzodiazepines, and synthetic cannabinoids. As for possible antibody-drug conjugates (ADCs) involving tramadol and its active metabolites, one could make the argument that since the contribution of attached tramadol to the overall conjugate is insignificant, it should be treated as unconjugated protein and thus not controlled. This line of reasoning does minimize the regulatory barriers imposed on research into tramadol-ADCs and, by extension, other opioid-ADCs as a form of immunotherapy for opioid use disorder (an article in the *Pharmacological Review* explores this topic effectively¹⁰). Further inquiry into this matter is warranted. Additionally, whether or not the phrase “the following derivatives” will be included in future amendments (either to pre-existing items or new items) is an intriguing question that has yet to be answered.

In Ontario, with tramadol's designation as a narcotic drug, prescriptions of tramadol and tramadol/acetaminophen products can only be accepted if they are written or faxed in. In addition, tramadol may only be dispensed as part-fills of a larger authorized quantity.

Like other narcotics, prescriptions of tramadol and tramadol/acetaminophen may not be transferred to another pharmacy. These restrictions for Ontario would apply once the exemptions to CSDA subsection 56(1) expire on September 30, 2026 at the latest (for now). In addition, the changes to the Pharmacy Act that enables pharmacists to renew and adapt tramadol prescriptions will be revoked on April 7, 2022. Also, if not done al-

ready, records of tramadol prescription sales must be maintained for at least 10 years as required by the Drug and Pharmacies Regulation Act. The Narcotic Monitoring System is already monitoring tramadol prescriptions. As for losses or thefts, those incidents are legally required to be reported to the police and Office of Controlled Substances within 10 days. According to the government of Canada, the total annual incremental costs for the reporting of these incidents and the record-keeping of tramadol-related activities will be \$453,636, with a total cost of \$3,186,149.1 Tramadol and its salts will be removed from the Prescription Drug List.

The changes to the regulations will come into effect on March 31, 2022. In the meantime, changes to computer systems and pharmacy procedures regarding tramadol could be implemented. For instance, the practice of double-counting in the filling stage of tramadol dispensing may be implemented beforehand if not done so already.

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APPE REVIEW:

My experience at Compass Medical Affairs Consulting with Monica Gautam

By David Czosniak, 2T2

APPE selection period is often difficult and can require some strategy to try to optimize your schedule. One of the rotations I wanted to try was one at a pharmaceutical company of which there were only a few. There was one being precepted by Monica Gautam, and her company Compass Medical Affairs Consulting. Monica is, of course, the course coordinator of PHM321, Selected Topics in the Pharmaceutical Industry. This was a course I had enjoyed, which was part of the reason why I wanted to have an industry placement in the first place! After the completion of APPE selections, I was lucky enough to be placed with Monica for my first APPE rotation.

I was a little nervous starting my first rotation, but was encouraged by the fact that I would have another APPE student with me so we could go through our first rotations together and be able to bounce ideas off each other. The rotation started off with a virtual meeting between the three of us where the expectations and general schedule for the rotation were laid out and then we were on our way! The rotation was largely self-directed, with only twice weekly meetings to discuss our progress, new tasks, and whatever else Monica had in store for us in the rotation. Otherwise, we were free to work on our own schedule, though we did have some deadlines to meet throughout the five weeks.

The main overarching project of the rotation was focused around the APPE presentation, where we as-

essed a drug undergoing clinical trials by performing a landscape analysis of the therapeutic area and current options for treatment, and critically appraised literature which would be under consideration for the drug's approval in Canada. This project came in handy for me, as I encountered my drug a few times later on my hospital rotation and I was able to discuss it with some of the clinicians using it.

Other projects that I did during my rotation included a data analysis of results from a survey conducted by Monica from different pharmaceutical companies, helping in conducting interviews with members of a pharmaceutical company and analysing their responses, and writing a blog post about a topic related to pharmaceutical industry practice. However, none of these was the most valuable experience I had during my rotation. The most valuable experience to me was meeting new people in industry, gaining insights on how they practice, and how they got to where they are now. These interactions helped me consider my options for the future and really enriched my rotation experience.

Through all these different activities I learned a lot and became more prepared for a future career in pharmacy. While I was a little worried initially, my rotation with Compass Medical Affairs Consulting was a great one, and one I would recommend to any student considering a career in industry.

3 reasons why vaccines are STILL under-utilized in developed countries

@livemorewithlaur

3. People are concerned about SIDE EFFECTS



THE FACTS

- Countless studies have proven that **vaccines do not cause autism**

The most common side effects should **subside in a few days**:

- Pain and swelling at injection site
- Flu-like symptoms (headache, fatigue, muscle aches, etc.)

@livemorewithlaur

1. People underestimate the BENEFIT of vaccines



THE FACTS

Immunization has:

- Saved more lives over the last 50 years** than any other public health intervention
- Resulted in the **global eradication** of smallpox
- Resulted in the **regional elimination** of many other infectious diseases (ie. polio, measles, etc)!

@livemorewithlaur

"Those who have witnessed the dreadful disabilities and deaths caused by smallpox and polio often viewed vaccines against these diseases as nothing short of a miracle.

However, much of today's population has never experienced the devastation caused by these and other vaccine-preventable diseases, thanks to immunization programs.

In addition, **when there is no longer an imminent fear of contracting a disease, the public tends to forget about the limitations of cures and can become apathetic towards available prevention strategies, including vaccination."**

- Nora Cutcliffe, PhD (BIOTECCanada)

@livemorewithlaur

2. People underestimate the SEVERITY of infectious diseases



THE FACTS

The **top 9 major infectious diseases** would be responsible for **5.9 million deaths** annually if it weren't for vaccines!

Examples include:

- POLIO** - can result in paralysis of legs, head & neck
- MEASLES** - highly contagious, can lead to pneumonia or encephalitis (swelling of brain)

@livemorewithlaur

SOURCES

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@livemorewithlaur

7 Ideas for a Homebody Holiday

Joham Ahmad, 2T4 Monograph Representative

The holidays are nigh, and it's around this time of the year when students adopt a lot of free time. If you're like me, you want to make the most of every relaxing moment during the break – but in the comfort of home. So, if you're looking for at-home activities to fill your time this winter break, I've got you covered:

1. Watch (or re-watch) holiday movies, and holiday episodes of your favourite television shows. For movies, you can't go wrong with classics like *Home Alone*, *Elf*, or a new favourite – *Klaus*. For shows, I love the Christmas episodes of comedies like *Community*, *The Office*, *New Girl*, *Brooklyn Nine-Nine*, and *Modern Family*.

2. Read a book. More specifically, start up your fireplace (or alternatively throw on Netflix's "Fireplace For Your Home" on your TV + light a candle), grab a hot drink, cozy up in bed, and read a book!

3. Make some art! Whether it's painting, knitting, or digital art, getting creative is an essential way to unwind this holiday season. Once you're done, show off your talent in the Artist Spotlight in the next issue of the Monograph!

4. Finish a puzzle (specifically a jigsaw puzzle, but I love a good sudoku or crossword). Pro-tip: if you're a casual dissectologist looking to purchase a puzzle you can actually finish, I would recommend something no bigger than a 500pc set. Or get a 1000pc and go wild.

5. Grab your friends or family, blast a Christmas playlist, and bake cookies! With gingerbread or sugar cookies, there's the added fun of decorating them.

6. Host a holiday dinner for friends or family. Party planning is such a satisfying creative endeavour, and it'll be a chance to make cherished memories.

7. Reflect on all that you're grateful for this year, and note some New Year's resolutions. You could take on bullet journaling to track habits and keep yourself accountable.



I hope the holidays provide you an opportunity to be well-rested and partake in new experiences. Congratulations on completing a challenging semester, and here's to tackling the next one!

5 Rx-Mas Activities to do this Winter!

By: Ashish Gante, 2T5 Monograph Representative



Despite being a Sagittarius, I am actually not the biggest fan of winter. I much prefer the warm temperatures of June and July to the snow-filled months of December, January, and February. That being said, I always try to make the most of what mother nature offers and so I wanted to share some of my favourite holiday activities that you can do in and around Toronto! Here are 5 activities you can do, without breaking the bank:



Winterfest at Wonderland

Nov 13- Dec 31

If you grew up in the GTA like me, you have probably gone to Canada's Wonderland about 20 billion times. However, ever since 2019, Canada's Wonderland has been offering a Winter-like version of the amusement park. While it did not happen in 2020 because of the pandemic, it is back for the 2021 season! From skating on Snow-Flake Lake, to a Christmas Tree Maze, to riding the rides of course, there is something for everyone!



Holiday Street Market

Weekends from Dec 4- Dec 19

I absolutely love trying different types of foods and if you feel the same way about food as me, you cannot miss this event. This food market will be hosting 100 artisan vendors including a beer and wine garden, food trucks, and even a maple sugar shack! If you live in the city's east end, this street market is a must visit.



Cavalcade of Lights

Date TBD; usually the last saturday of November

Like the name suggests, if you love bright lights, this is the event for you! While this year will not include the usual fireworks that take place every year, there is still plenty to see. In the past, there has been a circus performance, a skating party, and of course a lighting of the 18 meter Christmas Tree.





Distillery Winter Village

Nov 18- Dec 31

While this may seem like a “cliche” activity on my list, I still think this is one of the best things to do in Toronto, especially for those who are coming from out of province. Personal favourites of mine include the Sweet and Savoury S’mores waffle and the Giant Pretzel! Located in the Distillery District, it always attracts big crowds, so be sure to get there early!



Drive-Through and Drive-In Events

Various dates depending on location

If you are the type of person that likes to stay inside your warm car rather than traverse the snow filled streets of Toronto, then drive-throughs are the way to go for you! There are multiple locations all across the GTA and Ontario making sure that no matter where you are located, there is one nearby to you! Highlights include the Journey into Enchantment drive-thru in Mississauga, and the OPG Winter Festival of Lights in Niagara (which is free!).



While this is definitely not an exhaustive list of all the major winter activities in Toronto, going to one or two of these events can add a little winter fun to the long exam season we have ahead of us!



Shoutout to Maryen for always being there for me ❤️

Kendrick is the GOAT with his anki cards

Shoutout to the girlz for always being there for when I feel down. You make me feel so much better! ily ❤️

Professor Jon for his PHM130 lecture

Shoutout Ubaid for always answering my questions on time - MVP

Beep beep I'm a sheep

Shout out to Sally - my fav 2T4!!

Shoutout Ubaid for securing us those biochem lecture recordings! That's my pres ❤️

SHOUT OUT TO ASHISH !!!!! what a guy

To the 2T5 AG. The way your long beautiful hair glistens in the sunlight along with your perfect white teeth bring joy to my heart every time i am blessed enough to be in your presence. Keep doing you king. Sincerely, anon ❤️

Shoutout to Annie for always being there to cry with me!!! Love you lots babycakes 🥰

To Eulaine - for working so hard on the Monograph ❤️

TOP WINTER MEN'S FRAGRANCES

By Amar Deonandan, 2T3 & Moid Shah, 2T3 Monograph Representative

Hello everyone! Winter is coming and we've got a list prepared for colognes you can wear when meeting up with that special someone, or just for going out and being a little fancy. In no particular order, these are our top 5 men's winter fragrances as chosen by yours truly.



Dior Sauvage

To be fair, Dior Sauvage is really an all-rounder that can be used at any time of the year. Going for a night-time date? Dior Sauvage. Going for a walk downtown on a cold summer afternoon? Dior Sauvage. Going to take a photo with Santa Claus? Dior Sauvage.

Dior Sauvage has a very strong projection and can last on my skin for hours. A strong base note of black pepper can be smelled, along with more subtle notes of lavender, spices, and ambroxan. Sauvage is quite a polarizing fragrance. Some people love it, some people absolutely hate it. But out of the many variations available, I would recommend the Eau de Toilette - this will give you the best bang for your buck with the best smell available.

Polo Red

Polo is a name well known and respected by many. Although my personal favourite Polo (and call me a boomer) is Polo Green, Red does make an amazing fragrance around Christmas time. Strong notes of cranberry and citrus can be smelt, along with more subtle notes of coffee and amber makes this a pretty good fragrance for a family Christmas dinner or a Christmas party.



Victor and Rolf Spicebomb Extreme

This is a fragrance that really shines in the winter months. Unlike the original Spicebomb which has a very sharp, overpowering spicy scent, the Extreme has its spicy notes mellowed out, more easing on the nose. Scents of tobacco, black pepper and leather comprise this fragrance, which makes it a very good scent for a winter evening outing.

Jean Paul Gaultier Ultramale

Don't be fooled by the intimidating name of this fragrance. Although it has masculine undertones, this scent is subtle and the pear scent adds a nice balance. This fragrance is perfect for the winter, but to be honest it can be worn all year round. Ultramale has a very long shelf life, and even a single spray can last weeks. This is an update of the original JPG Le Male scent and the updated smell is a marked improvement over an already great scent. I recommend wearing on a night out, because this isn't overpowering, but it will stand out from other competing scents.



YSL La Nuit de L'Homme

My personal favourite that got me into the world of fragrances. La Nuit De L'Homme is another great winter evening scent like Spicebomb extreme but with a more distinct profile. A strong base of cardamom, with lighter notes of vanilla and spice compromise this fragrance. I personally like this one more than Spicebomb Extreme but where it shines in its amazing smell, it falls short in projection and performance. After being reformulated, the scent does come off as more subtle and short lasting, and will not stand out like some of the other options listed in this article.



- *Blüte der fünf Farben* -



BanG Dream! Episode of Roselia Review

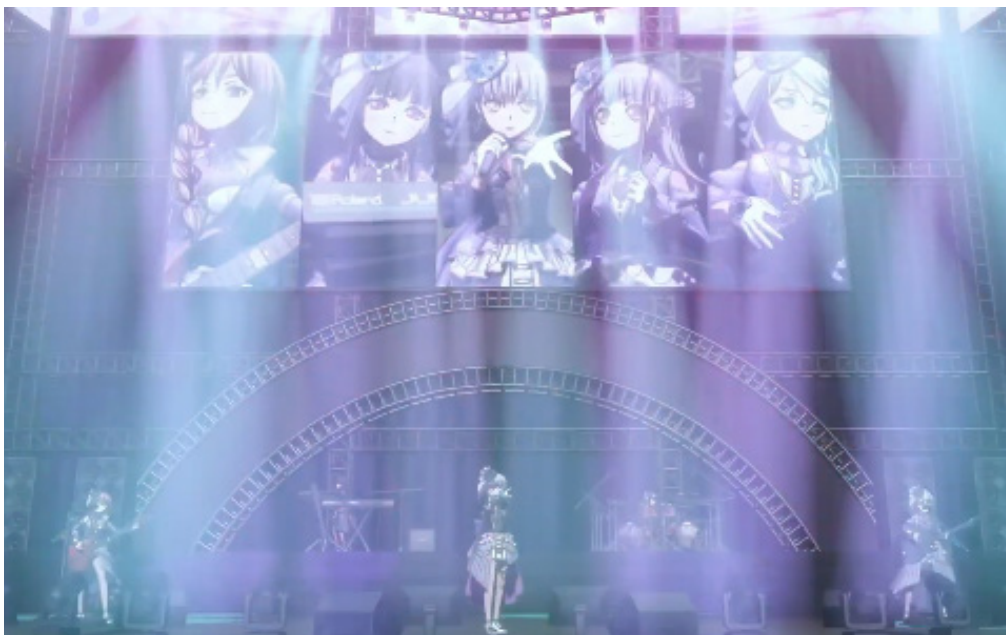
By Huy Pham, 2t4

The stage is set. The crowd is cheering and roaring for your arrival. You waited your entire life for this moment. As the bells toll, you silently approach the stage. Let's go. BanG Dream! Episode of Roselia is a two-part film series that features the J-Rock band Roselia (not the pokemon) from the BanG Dream! project. On guitar, the "Metronome of Sadness", Sayo Hikawa (CV. Haruki Kudo). On bass, the "Goddess of Kindness", Lisa Imai (CV. Yuki Nakashima). On drums, the "Blackish Fallen Angel... something something" Ako Udagawa (CV. Megu Sakuragawa). On keyboard, the "Immovable Master", Rinko Shirogane (CV. Kanon Shizaki). And on vocals, the "Mad Blooming Purple Rose", Yukina Minato (CV. Aina Aiba). Part I: Promise follows the story of the band from their formation and the struggle for a chance to perform at FUTURE WORLD FES, a music festival where the best bands of the world perform while Part II: Song I Am covers their performance at FUTURE WORLD FES and what lies in store for Rose-

lia after they accomplished their goal.

The movies adapt the plot elements directly out of the video game so, as someone who plays the game and is prepared to fully devote myself to Roselia, I wasn't expecting any suspenseful moments or dramatic plot twists. It also removed any emotional impact of certain scenes it would have had if I watched it blind. However, it is nice that the movie references stories that are not entirely related to the band's journey to FUTURE WORLD FES like a story about the sibling relationship of Sayo. I was also half-aware of what songs would play over the course of movies. For instance, one of the stories from the game that was used for Part II has an associated song called "UNIONS" ROAD' so obviously they would play "UNIONS" ROAD'. It didn't exactly prevent me from enjoying those scenes. I was somewhat disappointed that the full songs were played but I guess that's more in line with another BanG Dream! movie.

The main performance of note for Part I is the adapta-



"The shadows we cast on stage... They're deeper and more defined than ever before. The light is our future. As we sing, we face it, and our form is reflected on the stage we stand upon.... I can't believe it. Singing really was this simple. This simple yet pure feeling will surely give shape to the light... and to our future...!"

tion of the final chapter Neo-Aspect band story. Like the game, the girls are wearing costumes with a clock or time motif as sort of a symbol for the central conflict in Neo-Aspect. As stated by Rinko, “Time for us... stopped for a moment... However... the clock’s hands... are in motion... once again.. I want us to move forward together...”. They did skip “Re:birth day”, which was used instead for a montage sequence and went straight ahead into “Neo-Aspect” the song. The movements of the characters on stage mirrors the other live performances of “Neo-Aspect”, whether it’s Yukina/Aina “reach[ing] out [her] hand. Trying to find it [the light], but [her] hands grasp at nothing” or the flashing lights after the first verse that correspond with the guitars and drums. There were also a lot of quick, sweeping shots and cuts during the song (seems like the animators were having fun with this). This is apparent during the chorus. Case in point, “(start with Yukina) Kitto kuyashiku tte, (cut to Lisa) nasakenaku tte, (cut to Ako) namida shita tte (cut to Sayo) koko ni iru yo (cut to Rinko) tobira wa akete (cut back to Yukina) oku kara. I hold you! (during those last three words, the camera cuts to the audience, a rapid glance of the band and then the entire stage)... Beautiful prouder! So, Beautiful braver! So, Beautiful brighter (the camera moves from Lisa to Rinko to Ako to Sayo then finally snaps to Yukina)”. There’s also the first instance in the series where “Promise” is sung. In this case, it is as an a capella by Yukina. Credit has to be given to Aiba Aina (fun facts, she’s a ex-pro wrestler) for giving such a great rendition of the song. The added scene of a younger Yukina and Lisa standing in a field of white clovers provide a nice bookend for the movie, starting and ending with their childhood. It’s SWEET! EXCELLENT! UNSTOPPA ... ah, wrong band.

The first performance in Part II has the setlist of “Promise” and “UNIONS” ROAD’. The cinematography of “Promise” is good, cutting to the non-vocalists during their “flower of life” line. The shot of Yukina and Lisa in the foreground during their duet in the refrain was pretty impactful. As for “UNIONS” ROAD’, there were a couple of sweeping shots highlighting the non-vocalists. For the duet of drummer and keyboardist, there is a spotlight on those two, further emphasizing that “UNIONS” ROAD’ is their song. The setlist at FUTURE WORLD FES, aligning with the game, is “LOUDER”, “Neo-Aspect”, and “Song I Am”. The “LOUDER” performance has a dynamic feeling, with the characters moving with the music. Some of the choreography mir-

rors those of Roselia’s in-person performances. At the chorus, there were rapid cuts and camera movements highlighting the energy of the song and the size of the audience. Also, the little dance between the vocalist and guitarists near the end is a nice touch. For “Neo Aspect”, like the previous performance in Part I, the choreography of Roselia parallels that of the live performances. Finally, as for “Song I Am”, it too utilizes a lot of fast-moving shots and individual cuts to the members’ movements to further emphasize the energy of the song. A fascinating shot is the wide shots of the entire band with each member on a big screen overhead that corresponds with the line “for our own future as us, together”, as it highlights how the five are stepping into the future together as a band. The scene immediately after the performance incorporates the individual member’s monologue from the game with cuts to the prior scene that focuses on them, which I found heartwarming.

Five new songs debuted in these movies. The first song and the opening theme of Part I, “Proud of oneself”, begins with a Gothic melody in conjunction with the recurring theme of each of the five members singing a phrase, then all five harmonizing together. The accompanying scene has a burning blue rose which returns by the end of the opening sequence. The majority of the ac-



I'll breathe life deep into the scene of our promise. As we walk on this path into the future, until it shines on the throne. Until that day, I won't let it end.

accompanying visuals has the band performing in a bird cage. This is reminiscent of the cover image for “LOUDER” and “Song I Am” where a bird is escaping from its cage and flying towards a new world. The second song and ending theme, “overtuRe”, incorporates an intense musical motif. The song is decent and the chorus did grow on me. The ending sequence incorporates an element from the adapted band stories: a church for the first third (in the game, the awakened cards associated with the story have them in a church and the music video for their first song “BLACK SHOUT” is in a church), a clock for the second third, and white clovers for the final third. The rolling credits also have shots from the movie to summarize the events of the movie and finishing off with the phrase “Das ist nur der Anfang” (“this is just the beginning”... as well as the name of their first album which contains “Neo-Aspect”). The opening theme for Part II, “Sing Alive”, produces a triumphant mood and has them playing in the middle of a game of giant chess. The song in its entirety ends with a literal high note as the last chorus is performed by a higher key and the vocalist hits and holds a 5-second F-sharp (in the live version, Aina somehow gets into a higher pitch). The song’s beginning and ending seconds have the sound of a ticking clock, which likely references the motif of “Neo-Aspect”. The ending theme, “Singing “OURS””, is unusually somber and melancholic considering that the protagonists have achieved their goal. However, it does make sense considering the question of Roselia’s future after FUTURE WORLD FES (which is addressed in this movie), connecting this theme to the song’s refrain which talks about the future. The accompanying visual is simplistic; a blue rose resting on a sea of white. That is until the second verse, where the blue rose is joined up with an image of a member shaded in their respective colours. The first third of the song only has the keyboard and the occasional orchestral strings as the backup instrumentals but soon after that, the drums and guitars are integrated. On a personal note, “Singing “OURS”” is likely to be the first thing I’ll listen to after final exams (that or “Our Path”, another Roselia song). Finally, the insert song, “Ameagari no Yume” (translated as “Dream Once the Rain Clears”), is a solo song and serves to focus on the vocalist, as its role in the movie is to display Yukina’s ability as a vocalist to the prospective members. It’s a pretty good song with a fast tempo.

One slight gripe I have with the movies is the animation. Basically, the important characters are drawn with CGI



“I don’t understand any of it... What I’m doing... Why I can’t figure out any other way to deal with this problem...! It’s all moving farther and farther out of reach... If this keeps up, I might lose everything...”

3D models while the less important characters (and the younger versions of some of the characters) are drawn in 2D. Most of the time isn’t noticeable since I got accustomed to the animation style after watching season 2 and 3 of the BanG Dream! anime and other 3DCG animes (mainly Houseki no Kuni and D4DJ). But when the 3D main characters are in the same scene as the 2D background characters, it can feel really jarring. I also wish that the movie expanded more into the story behind “LOUDER” given its significance to Yukina and the band.

Overall, I really liked Episode of Roselia as a piece of fanservice. Those who like J-pop or J-rock may find some enjoyment. The film series hits most of the notes perfectly or greatly with a couple of good points (so no full combo then) and misses. Now to watch the five members of Roselia perform on Film Live! 2nd Stage... or die along with the other bands for some reason in a “fever”-ish chibi spin-off series.



VIDEO GAME REVIEW:

Forza Horizon 5

By: Amar Deonandan, 273

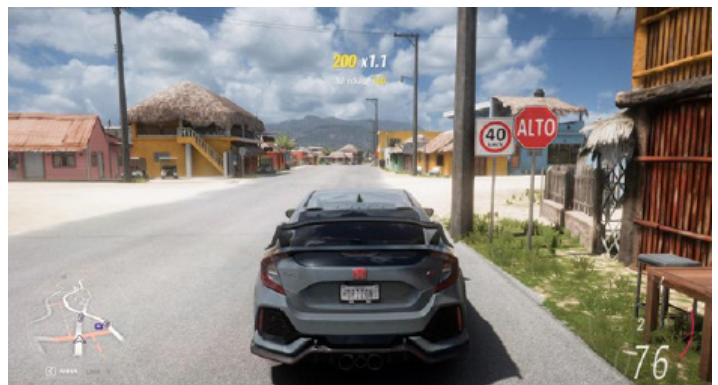


Being one of the most anticipated games of the year, Forza Horizon 5 just launched last week (at the time I wrote this article).

Forza is divided into two series: A Motorsport series that focuses on track racing, and the Horizon Series, which focuses on open-world exploration. Each Horizon game is set in a different setting around the world, with this game being set in the hot, diverse landscape of Mexico.

Although I haven't had much time to play it, the few hours I've spent playing it left me speechless. The graphics in this game are nothing short of photorealistic (and this is from someone of very high standards). Playground Games said they used satellite imagery to help generate some of the environments seen in this game. There are also plenty of cars to choose from (over 500), ranging anywhere between ancient Pontiacs to the games' flagship AMG-One. There are many vehicles in between, including pickup trucks, dune buggies, electric cars, and more, all fully customizable ranging from performance mods like custom drivetrains, to fully cosmetic mods, like paint finishes to make your vehicle

truly your own. You can freely roam the world, exploring beaches, deserts, towns, and ancient Mayan ruins, or take part in one of the many races Horizon 5 has to offer, including circuits, drag races, or racing from Point A to B, either against bots, or against over 4.5 million players around the world.







The great thing about Horizon 5 is how accessible and easy it is to play with your friends. The game is fully cross-platform between Xbox One, Xbox Series X, and PC gamers (sorry PlayStation fans) and is available at the full price of \$79.99 or on Game Pass. Even if you're not a big racing fan, it's one game all gamers should try.

TYPES OF PHONE CALLS

<p>SHOPPERS PHARMACY. HOW MAY I HELP YOU?</p> 	<p>PHARMACY. HOW MAY I HELP YOU?</p>  <p>PHARMACY. HOW MAY I HELP YOU? HELLO?</p>	<p>PHARMACY. HI. WHICH VACCINE ARE YOU GUYS GIVING OUT?</p>  <p>MODERNA. OH, OKAY. BYE.</p>
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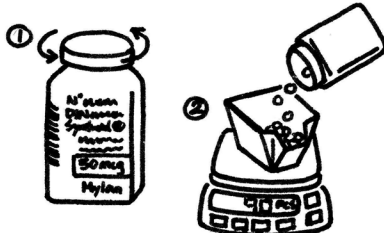


"SPECIAL SERVICES"

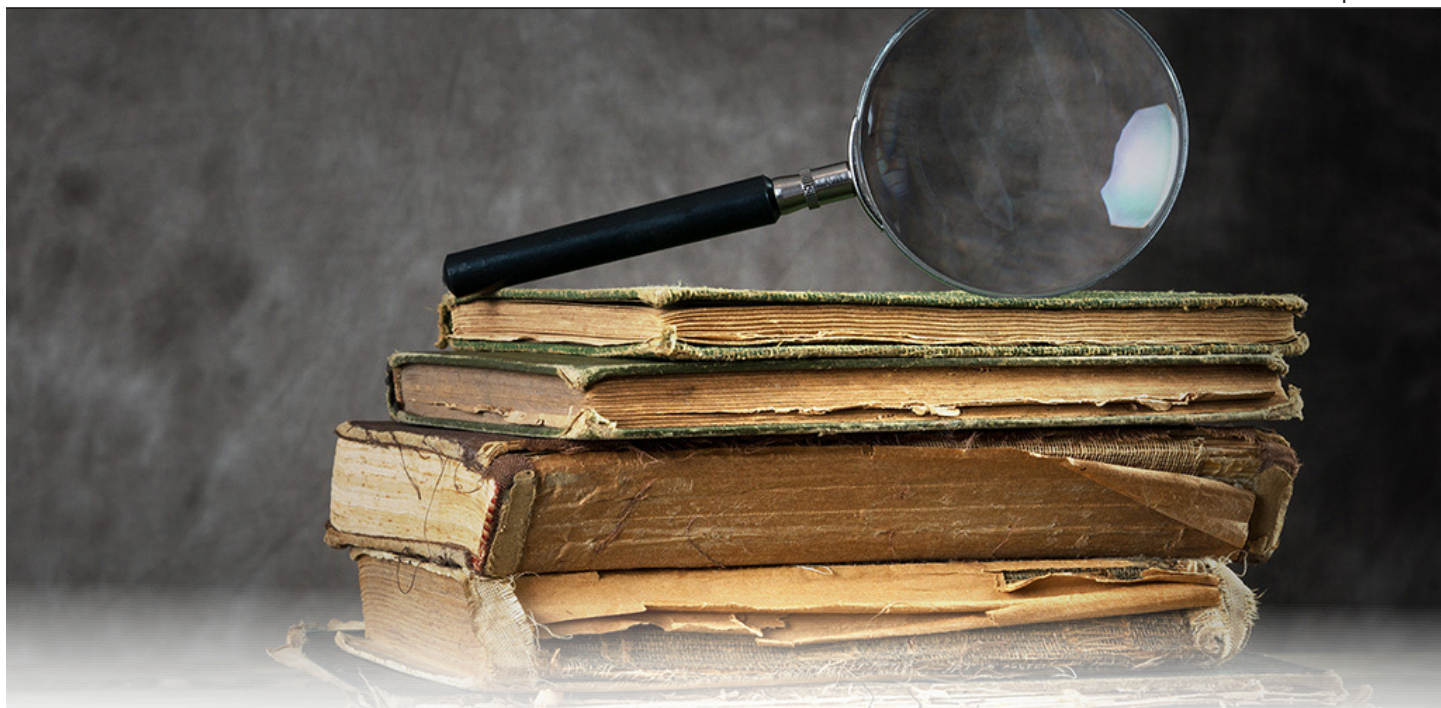
<p>MEDSCHECKS INJECTION SERVICES</p>  <p>THE POSTER CHILDREN OF COMMUNITY PHARMACY</p>	<p>THE UNSUNG HEROES:</p> <div> <p>AA Anna Austin 17 Min Start CALL WHEN READY</p> </div> <div> <p>BB Bony Bony 23 Lax Order DELIVERY</p> </div> 	<p>THE ANTITHESSES:</p> <p>NOTE: CUT TABS!!! SIG: T 1/4 TAB BID</p>  <p>«INCOMING FAX» TRANSFER REPORT ENTIRE PROFILE, x14 Rx</p> <p>BLISTER PACKS</p> 
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NIGHTMARE SCENARIOS

<p>BEGINNING OF THE DAY:</p> <table> <tr><td>Entry</td><td>4</td></tr> <tr><td>Verification</td><td>3</td></tr> <tr><td>Filling</td><td>11</td></tr> <tr><td>Product Check</td><td>7</td></tr> </table> <p>ESI SYSTEM BREAKS DOWN:</p> <table> <tr><td>Entry</td><td>61</td></tr> <tr><td>Verification</td><td>5</td></tr> <tr><td>Filling</td><td>12</td></tr> <tr><td>Product Check</td><td>9</td></tr> </table>  	Entry	4	Verification	3	Filling	11	Product Check	7	Entry	61	Verification	5	Filling	12	Product Check	9	<p>BLISTER PT. REGIMEN CHANGE</p> 	<p>WORKING ON SOMETHING FOR ONE PATIENT AFTER PHONE CALL...</p>  <p>BUT SOMETHING URGENT COMES UP & ACCIDENTALLY EXIT PAGE</p>
Entry	4																	
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Product Check	9																	

DREAM SCENARIOS

<p>FILL: SYNTHROID 0.050 MG 90 TABS</p>  <p>③ «NO 3rd STEP - FIRST TRY»</p>	<p>FILL: JANUMET 50/500 MG 180 TABS</p> 	 <p>SPRINKLE, DON'T PLACE</p>
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The Hunt for Mildred Aster – A Riddle Series

Mackenzie Richardson, 2T5

Riddling is an ancient art, a contest of wits, a way to pass the time, a rite of judging kings and paupers alike. Riddles are a way to improve mental dexterity and acuity. But they are also a challenge. I present these riddles to you, in this issue of the Monograph and those to follow, as a chance to test your mind. **If you can solve these problems, send your answers to mack.r08@gmail.com, and for each set I will give away a \$10 gift card to any coffee shop (winner's choice) to one lucky winner.**

Riddle 1: The Guards

You are hunting for the infamous criminal Mildred Aster. You have tracked her last known location to the town of Twinsville, a remarkable town where everyone is born as a pair of identical twins, where one twin always tells the truth, and one twin always lies. On your way to the town, you come to a fork in the road, guarded by two sisters. You are not sure which one lies, and which one tells the truth, but you must ask them which road leads to Twinsville. What question do you ask?

Riddle 2: A Man and his Brother

Having found the correct road to Twinsville, you walk down the road towards town, when you are ambushed by a gang of thugs. Your only hope is to find Bruce, your contact in the town. You know what he looks like, but you aren't sure if he always lies or tells the truth. You race into town, where you see Bruce and his brother! Out of breath and short of time, you have only three words to figure out which brother is Bruce. What do you ask?

Riddle 3: The Key to Success

Bruce leads you to a safehouse where you can pause and catch your breath. After resting, you can find Mildred Aster's hideout – and her personal safe. However, to open it, you need a key. You notice a bowl filled with 27 identical keys right next to it. Inspecting the keys, you realize that 26 are fake, and 1 is real. The fake keys are made of lighter, cheaper metal, which would surely break if you tried to use them in the lock, sealing it forever. You must find the heavier, authentic key. The only tool you have is a dusty, rusting balance. Looking at it, you realized that it can only be used 3 times before it breaks forever. How do you find the true key?

Holiday Puzzles!

Christmas Crossword

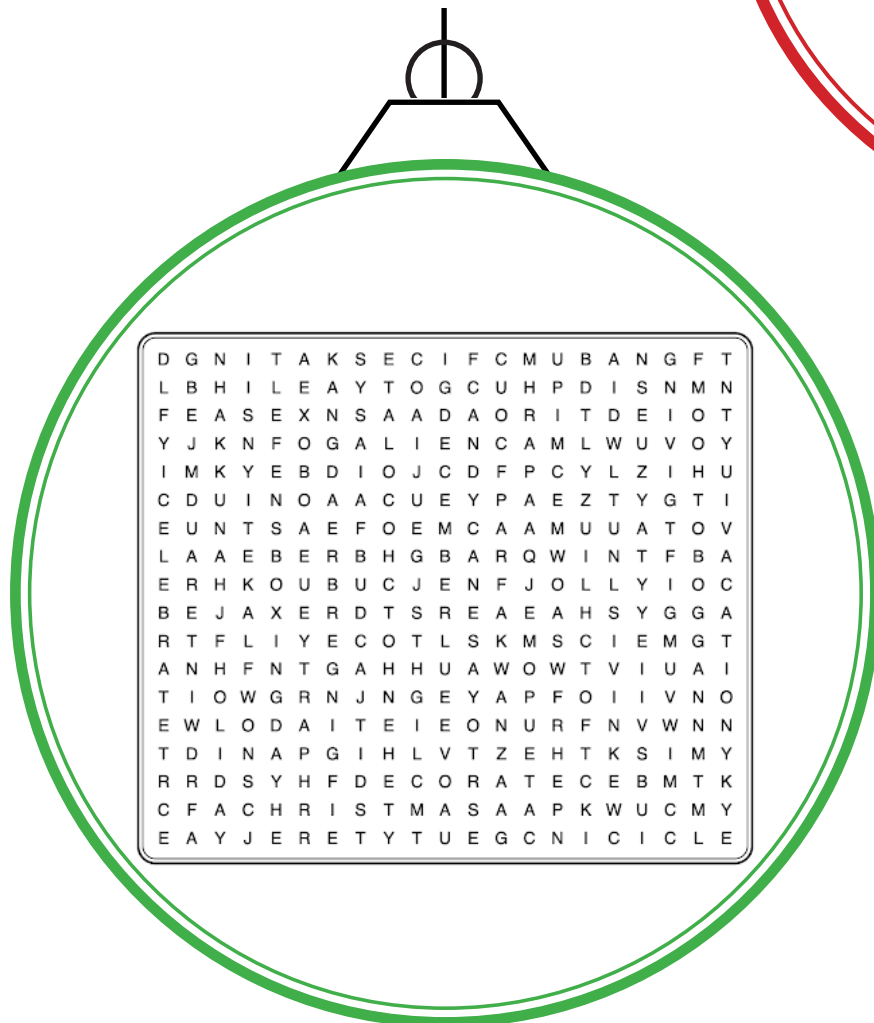
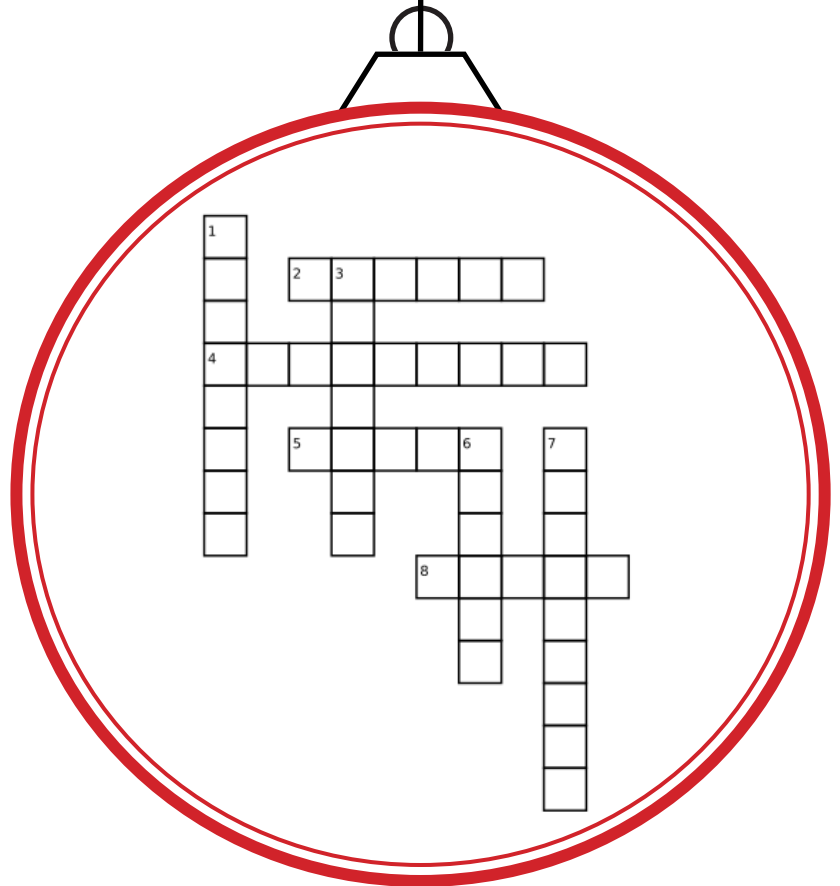
Maira Hassan, 2T4

DOWN

1. Giant sock that gets filled with presents
3. Reindeer with a shiny red nose
6. Santa rides in this vehicle
7. If you stand underneath this, you might get kissed

ACROSS

2. The name of a popular snowman
4. Red and white hooked shaped candy
5. Santa's helpers
8. What we find under the Christmas tree



Holiday Wordsearch

Shaista Malik,
2T2 Monograph Representative

Instructions: Find and circle each of the words from the list below. Words may appear forwards or backwards, horizontally, vertically or diagonally in the grid. Enjoy ☺

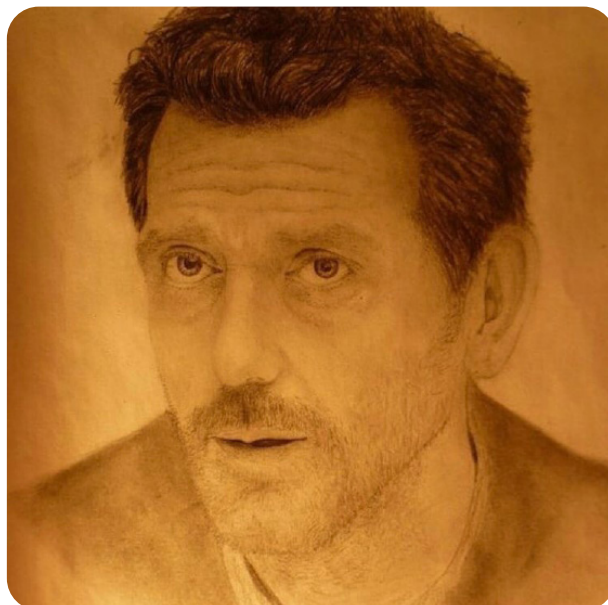
- | | | |
|---------------|-------------|----------|
| hot chocolate | toboggan | kwanzaa |
| gingerbread | december | new year |
| ice skating | gift giving | chilly |
| boxing day | winter | feast |
| hanukkah | vacation | icicle |
| candy cane | family | party |
| christmas | holiday | jolly |
| snowflake | decorate | lights |
| festivity | celebrate | |
| snowman | | |

ARTIST SPOTLIGHT

Ruba Ullah, 2T5



Ben D'Mello, 2T2



Ashish Gante, 2T5



Khoa Vu, 2T3



BIRDS OF 2T5



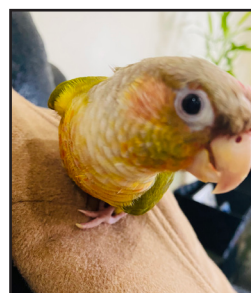
OCHI
Leeya Wilson



RUBY
Nick Narine



BUDGIE CREW
Ayman Lakhani



LUNA
Hitisha Solanki



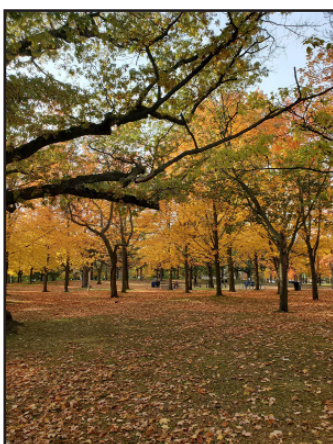
BO
Emily Lam



Behind the Lens PHOTOGRAPHY



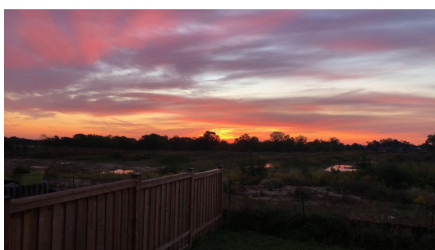
Ann Chang, 2T2



Sabih Jamil, 2T3



Amar Deonandan, 2T3



Sabih Jamil, 2T3



Sabih Jamil, 2T3