Volume 18, Issue 1 2016-2017

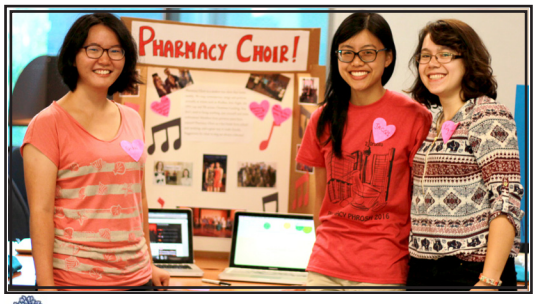
MONOGRAPH

The Voice of the Pharmacy Student

PHROSH WEEK 2016

INTERPROFESSIONAL BOAT CRUISE

BACK TO SCHOOL EVENTS



UNIVERSITY OF TORONTO
LESLIE DAN FACULTY OF PHARMACY

the MONOGRAPH | volume 18, issue 1 2016-2017

Hi Pharmacy!
Welcome to Issue 1 of the Monograph in all its printed glory! Take a read through and we hope you enjoy reading it as much as we have enjoyed putting it together!

We've decided to bring you a chance to win one of two $5 gift cards to Second Cup! Follow the rules below for your chance to win!

1. Complete the sudoku found within this Monograph. Please include your Name, Year and Email Address on the sheet so that we may contact the winner.

2. Tear off the completed sudoku (along the dotted line) and deposit it into the box that is on the bottom rung of the Monograph stand (black stand outside UPS room near PB150).

3. Wait to be contacted as a winner! One submission per student is allowed. A total of two students will receive gift cards.

Our last piece of exciting news is our very own Monograph webiste is up and running! Thanks to Linda (Webmaster), you will now be able access the Monograph online, as well as post comments below articles! We wanted to do this in hopes to foster some afterthought to the articles, or to let an author know you really enjoyed their piece. Follow the QR code to access the new page!
Thanks for reading and we hope to see more of your submissions soon!

Naomi Lo and Natalie Ternamian

The Monograph could not be brought to you without the hard work of the following individuals:

1T7 Representative	Leyla Warsame
1T8 Representative	Brett Hevenor
1T9 Representative	Vaishali Sriprathap
2T0 Representative	TBD
Staff Editor	Walter Gao
Co-Editors	Naomi Lo
	Natalie Ternamian
Photographs	Pharmakon

An army of dedicated Staff Writers
... and you, for reading the Monograph :)

September-October 2016

FEATURES

Follow the QR code to access the new Monograph webpage!

UPS ADDRESS

Hello to the beautiful students of Pharmacy!

To the incoming class of 2T0, congratulations and welcome to the Phamily. We hope that you had an amazing Phrosh Week and took the time to get to know your fellow classmates and colleagues. A huge shoutout to Steven, Bryanna and the Phrosh Planning Committee for organizing and executing a phenomenal Phrosh Week! To all of the upper years, we would like to welcome you back to another incredible year and hope you make the most of it!

With the school year off to a start, we also hope that you enjoyed yourselves at the UPS Mixer and Interprofessional Boat Cruise. If you had fun at those events then you're in luck because we have a year JAM PACKED with many, many more events to come this semester, including the U of T vs UW Soccer Cup, many Lunch and Learns, Phollies, Charity Week, and the UPS Holiday Party!

We encourage you to sign up for Intramurals and clubs as they provide more opportunity to have fun and develop yourself while at the Faculty. Your experience here is definitely what you make of it so we encourage you to get involved in the many extra-curricular activities that are available. Ensure that you take advantage of all these opportunities and challenge yourself to join or participate in at least one club or activity of your choice throughout your first semester!

The release of the Monograph is certainly something we always look forward to. There are always many great reads and captivating pieces written by the students, for the students. Kudos to Natalie and Naomi for re-designing the look and feel of the Monograph.

They'll be bringing you coupons, QR codes, online versions, crossword puzzles, prizes, and more! Take the time to indulge in the pharmacy writing space or even publish a piece of your own. With all that said, feel free to contact us at anytime if ever you have any questions or concerns (even if it's just to say hi!).

Let the beginning of the school year unravel into one of your most fulfilling year yet!

Cheers!
Faraz and Alex

L to R: Halina Lam, Alex Mok, Faraz Razzagah, Hatf Sohail looking suave and enjoying the Interprofessional Boat Cruise

UPCOMING EVENTS

We asked the UPS Prez to give us a run down of some of the upcoming pharmacy events that will be taking place.
Jot them in your *already brimming* agendas!

October 2016

- 6th: National Bank Lunch and Learn (B150)
  - 12:30pm - 1:30pm
- 6th: TEVA Strategic Planning Seminar
  - 5:30pm - 9:15pm
- 10th: Thanksgiving
- 13th: OPA Lunch and Learn (B150)
  - 12:30pm - 1:30pm
- 13th: PIC/OTC Competition (7th floor Lab)
  - 4:45pm - 7:45pm
- 14th: Compounding Competition (8th Floor Lab)
  - 5:00pm - 6:30pm
- 16th: Student Literary Competition Deadline
  - 5:00pm
- 19th: OPA Dinner and Learn - (850)
  - 6:00pm - 8:00pm
- 20th: UTSU Lunch and Learn (B150)
  - 12:30pm - 1:30pm
- 26th: OPA Dinner and Learn (850)
  - 6:00pm - 8:00pm

November 2016

- 3rd: La Roche Posay Lunch and Learn (B150)
  - 12:30pm - 1:30pm
- 3rd: Phollies Rehearsal (George Ignatieff Theatre)
  - 5:00pm - 10:00pm
- 4th: Phollies (George Ignatieff Theatre)
  - 6:00pm - 8:30pm
- 7th - 11th: Charity Week
- 11th: Career Fair (Atrium)
- 11th: CSHP Upper Year Symposium
  - 6:00pm - 9:00pm
- 16th: OPA Dinner and Learn - (850)
  - 6:00pm - 8:00pm
- 17th: Allergan Lunch and Learn (B150)
  - 12:30pm - 1:30pm
- 18th: CSHP First Year Mixer
  - 5:00pm - 8:00pm
- 19th: Curling Bonspiel
  - 6:00pm - 8:00pm
- 21st: Monograph Second Issue Release
- 24th: Pharmafacts Pre-bowl (B150)
  - 12:00pm - 2:00pm

UPS CLUBS CORNER- Athletics

Welcome back Phriends and Athletes!

Lots has happened since the beginning of the school year in the Athletics departement! Here's a quick summary to bring you up to speed!

--Tug-O-War--

At the Back-to-School-Mixer, we found out which pharmacy class is the strongest. It was an intense battle between the classes but in the end, only one class could could out as the winner. The Tug-O-War championship goes out to the phresh, talented and strong 2T0's! Congratulations on defeating the two time champion 1T8s.

PULL! Two classes face off for victory and eternal bragging rights!

--Pharmacy Soccer Match UofT vs. Waterloo--

Congratulations to our Pharmacy Soccer Team for bringing home the 2016 Ontario Pharmacy Soccer Cup!
Waterloo and UofT played a tight match in the pouring rain. Regulation ended in 0-0 tie and UofT fought to take the cup home with a 4-3 win in penalty kicks!

The UofT and Waterloo Pharmacy schools smile for the camera!

--Intramural Softball Tournament--

Congratulations to our Pharmacy Softball Team for playing through three wet but glorious games at the annual softball tournament!

The intramural softball team is looking damp but dapper!

--Intramurals--

Intramurals are back! Let's first introduce our teams and respective captains for the school year.

Male Basketball (fall/winter) –	Captain Jahed Koshnood
Female Basketball (fall/winter) –	Captain Emily Hammond
Co-Ed Basketball (fall/winter) –	Captain Ashour Barkho
Male Flag Football (fall) –	Captains John Ngo and Ran Shu
Female Flag Football (fall) –	Captain Élise De Francesco
Co-Ed Flag Football (fall) –	Captains Élise De Francesco and John Ngo
Male Hockey(fall/winter) –	Captain Taylor Smith
Female Hockey (fall/winter) –	Captain Élise De Francesco
Co-Ed Hockey (fall/winter) –	Captains Taylor Smith and Élise De Francesco
Male Soccer (fall/winter) –	Captain David Tom
Female Soccer (fall/winter) –	Captains Alex Kourkounakis & Meiko Peng
Male Volleyball (fall/winter) –	Captain Jerry Boun
Female Volleyball fall/winter –	Captains Halina Lam & Meiko Peng
Co-Ed Volleyball Div. 2 (fall/winter) –	Captain Quang Vuong
Co-Ed Volleyball Open 1 (fall/winter) –	Captains Joseph Blommesteyn & Leanne Kong
Co-Ed Volleyball Open 2 (fall/winter) –	Captain Nga Pham
Male Lacrosse (winter) –	Captain Spencer Martin
Co-Ed Softball (fall) –	Captain Spencer Martin
Co-Ed Ultimate Frisbee (fall/winter) –	Captains Jonathan Mak & Ran Shu
Co-Ed Inner Tube Waterpolo (winter) –	Captain Leanne Kong

No tryouts, no fees! All sign-ups can be done through IM Leagues (http://www.imleagues.com/spa/portal/home). If you have any questions or comments please send us an email (athletics@uoftpharmacy.com)! Check out the UPS intramurals page for each captain's contact information and the links to the teams' Facebook group (http://uoftpharmacy.com/intramuralTeams.php). Stay tuned for intramural game updates and athletes of the month!

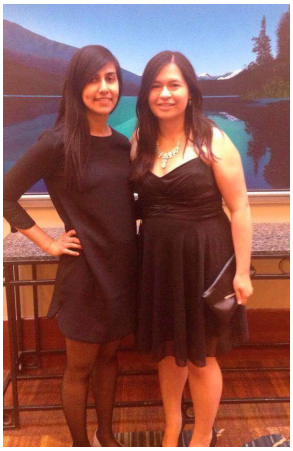
Looking forward to an amazing year with each and every one of you!
Élise and Sylvia

UPS CLUBS CORNER- CAPSI and OPA

Welcome back to school everyone!

We are excited to plan some amazing events for the 2016-2017 year! CAPSI (Canadian Association of Pharmacy Students and Interns) is a national organization that is aimed at promoting and advocating the interests of Canadian pharmacy students. As U of T Pharmacy students in the PharmD program, you're automatically a CAPSI member!

This past summer, your CAPSI Senior (Maria) and CAPSI Junior (Nisha) attended the CPhA conference in Calgary, Alberta. We met with CAPSI National consisting of other student representatives from pharmacy schools across Canada. We discussed topics such as CAPSI membership, PDW seat allocation and competitions. It was also a great opportunity to find out what's going on at other pharmacy schools so we can bring some new ideas your way!



We started off the year with the CAPSI textbook sale in the summer package and our CAPSI Ice Cream social to welcome of the first years at Phrosh. We had a wonderful time meeting the 2T0s and the upper years at Clubs Fair. In September, we opened the registration for CPhA benefits, which you get free as a CAPSI member. Note: This membership gets you access to the very popular RxTx app!

PDW 2017 is scheduled to take place in the beautiful city of Winnipeg, Manitoba. For those of you not sure of what PDW is, it's the largest completely student-run pharmacy conference in Canada. The conference will take place from January 4th to 7th, and registration will start late October/ early November. Over the course of the 4 days, there are many exciting activities planned such as the opening gala, talks, and motivational speakers. Make sure to sign up for the CAPSI competitions (ex. PIC/OTC, student literary challenge and more!)

As always, if you have any questions feel free to contact Maria (torontosr@capsi.ca) and/or Nisha (torontojr@capsi.ca).

We look forward to seeing you around PB!

Maria and Nisha

Hi Pharmacy!

To all returning students, I hope you had an enjoyable summer, and to all incoming students, welcome! The Ontario Pharmacists Association (OPA) had a busy summer! We were busy moving office locations down University Ave and hosting our annual OPA Conference celebrating our 50th anniversary- all the while carrying out our advocacy efforts for the profession of pharmacy! Here are some photos from the OPA Conference this year. We had a great selection of guest speakers this year at the conference and the occasion was topped off by having our very own oncology/hematology professor at the faculty, Dr. Carlo De Angelis, be recognized as OPA's Pharmacist of the Year! Congratulations Professor!

The 1T8's posing for a photo at the OPA Conference

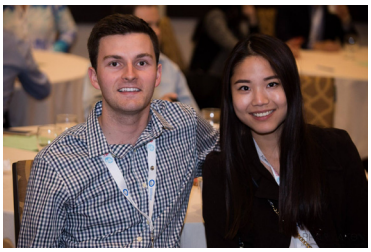
Now that everyone is starting to get in the swing of things at school, make sure to take full advantage of all the benefits you can enjoy as a student member such as continuing education courses, members-only access to publications and resources, and competitively priced liability insurance. In particular, don't forget to register for OPA's upcoming student dinner-and-learn sessions being held at the faculty. The sessions planned for this semester are as follows:

Proud UofT Students and Professors at the OPA Conference

The OPA Review is continued on the next page...

UPS CLUBS CORNER- OPA C'td and UTSU's Opt-Out

Student Dinner-and-Learn Sessions (Sign up at: www.opatoday.com/224127)
Wednesday, September 28 @ 6-7:30pm in PB850 – The first few years as a new pharmacist
Wednesday, October 26, @ 6-7:30pm in PB850 – What can you do with a pharmacy degree: Alternative practice settings
Methadone Student Sessions (www.opatoday.com/224128)
Wednesday, October 19 @ 6-8pm in PB850
Wednesday, November 16 @ 6-8pm in PB850



Thank you to all of our existing student members for your continued support of the association – our ability to voice your opinions and create change is only possible through our strength in numbers. For any students who have not yet become members, application forms can be mailed, faxed, or completed online, and any questions can be directed to membership@opatoday.com.

Good luck in your classes!
Tanner

GOTCHA! Bet you are only reading this because of the "opt out" title!

Welcome 2T0's and welcome back 1T8's and 1T9's to another fun filled school year! I want to highlight an important change from UTSU this year regarding our health and dental plan. Our student insurance provider used to be Green Shield Canada, but in order to tailor the plan more to our students' needs, we have changed our provider this year to Desjardins. This is important to know as this means that if you go to a pharmacy outside of UofT, you will need to inform your pharmacy staff that the coverage has changed. They will need to re-enter your insurance information! This new insurance provider is giving us increased coverage for psychological services that the previous provider was lacking. The opt out date for this year's health and dental plan is September 30th, 2016. Please consult UTSU.ca for more detailed information regarding what the new plan covers.

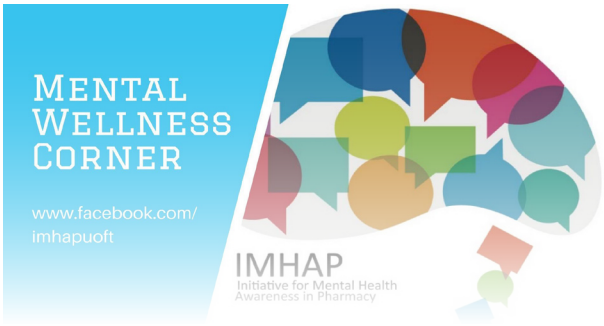
Over the summer, the UTSU board and executive members have been extremely busy working on new initiatives that better benefit our students. One initiative that is worthy of note and super applicable to pharmacy students is the tuition cap expiration. Currently, for professional faculties, tuition is set to increase maximally by 5% per year. As of January 2017, this maximum cap amount expires – what does that mean for you? This basically means that the university is free to increase the tuition by as much as they would like without a cap. This is scary considering how much we are already paying per year. As a result, UTSU is trying to work with Queen's Park to try to reinstate the cap or to put a freeze on tuition increases until a more permanent solution can be reached. If you have any questions regarding this initiative and how you can get involved, please go to the UTSU website where all the important information will be posted and updated regularly.

Finally, remember that UTSU has discount tickets for Canada's Wonderland, Screemers (perfect for post-midterm de-stressing!), Cineplex (including date night tickets) and Casa Loma. For y'all who don't work at Shoppers, UTSU also provides a 20% discount at Rexall for all your drugstore needs!

If you have any questions, comments or concerns regarding anything UTSU- related, go ahead and head to utsu.ca or shoot me an email at adriana.too@utsu.ca. If you see me around at school, please come say hi!

I wish everyone the best of luck in the upcoming school year and remember to have fun!
Adriana

UPS CLUBS CORNER- IMHAP and PSWH



Who Are We?

The purpose of IHMAP is to propagate knowledge and awareness about mental health, and to fight the stigma that surrounds mental illnesses and those afflicted by such diseases.

As future pharmacists, we are perfectly positioned to play a crucial role in the assessment, diagnosis and treatment of mental health disorders.

What Do We Do?

Throughout the year, we will be holding various outreach events aimed at providing students and the faculty with information relating to the recognition, diagnosis and treatment of various mental illnesses. In addition, we will be holding awareness campaigns in the hope of fighting the stigma associated with mental disease.

DID YOU KNOW?

1. In any given year, ONE IN FIVE Canadians experiences a mental or addiction problem

2. Nearly 4000 Canadians die by suicide each year – an average of 11 suicides a day

3. Mental illness is the second leading cause of disability and premature death in Canada

4. 49% of those who have suffered from depression or anxiety have never gone to see a doctor about the problem

Mental Health in Resources!

Think Outside the Box: Think Outside the Box is a free resource that provides creative solutions to barriers faced by those with mental health disabilities. It also provides engaging stories from these individuals and their service providers about how accessibility and accommodation has made a difference for them.

The Jack Project: The Jack Project is a national network of young people that are transforming societal perceptions of mental health. Jack.org provides initiatives and programs designed for young people, by young people in order to end the stigma associated with mental health. The Jack Project encourages and enables young people to better care for themselves and support their peers.

Once a month, we will be providing de-stress snacks along with a handout and brochure with more resources and information about mental health in Canada!

We look forward to meeting you all at our various events!

IMHAP Team

PSWH

Pharmacy Students for Women's Health (PSWH) is a student group that aims to advance and promote women's health through advocacy and education within the profession of pharmacy, as well as in the community. Be sure to "Like" us on Facebook by searching "Pharmacy Students for Women's Health" for our upcoming events/ initiatives.

As an introduction, the PSWH team wanted to share with you 5 fast facts about intrauterine devices (IUDs)!

You have probably heard of IUDs as one of the many methods of contraception available. The two main types of IUDs are metal based (copper) and hormone based (progestin). However as future pharmacists, there is a lot more we can learn about IUDs, which will be useful in educating our patients on the different options available to them. Here are 5 interesting facts about IUDs that you should know.

1. Copper containing IUDs can prevent pregnancy for up to 10 years while hormone containing (progestin) IUDs such as Mirena™, can prevent pregnancy for up to 5 years.

2. Women who use copper containing IUDs tend to have heavier and longer periods, while patients who use progestin releasing IUDs tend to have lighter and less painful periods, or no period at all.

3. Copper Intrauterine devices (CU-IUD) can be used as emergency contraception. Post coital insertion of CU-IUD used within 5 days of unprotected intercourse is reported to have 99% efficacy. This is in comparison with Levonorgestrel (Plan B™) which has an efficacy of 52-94%.

4. CU-IUDs are the recommended method of emergency contraceptive for obese patients (BMI > 30 kg/m2).

5. Women who use metal containing IUDs can undergo magnetic resonance imaging (MRI) procedures safely as the metals do not move or significantly increase local temperature during the MRI.

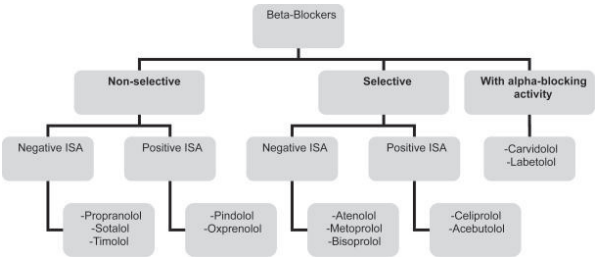
Thanks for the read! We look forward to seeing you at our many PSWH events!

PSWH Team

LEARNING ON THE GO- Journal Club

What Future Pharmacists Should Know About Beta-Blockers

Sara Temkit, 1T7



Beta-blockers (BBs) were originally developed to counteract the adverse effects of adrenaline on the heart. They have been shown to prevent mortality and morbidity in patients with cardiac disease, and have a compelling indication in patients with angina, atrial fibrillation, and post-MI. Possible indications for BBs include stable heart failure. Interestingly, BBs are also a first-line option for the treatment of hypertension in women of childbearing potential due to the concern of fetal renal abnormalities with the use of alternatives such as ACE inhibitors or ARBs[1] As pharmacists, we need to understand the pharmacology of BBs. There are actually three beta-receptors, and it is the beta-1 adrenergic receptor that is mostly located in the heart. Beta-1 receptor activation often leads to an increase in heart rate (positive inotropic effect) and myocardial contraction (positive chronotropic effect). In contrast, the beta-2 adrenergic receptor is mostly located in bronchial and vascular smooth muscle and Beta-2-receptor activation can lead to broncho- and vasodilation.[2]

The first-generation non-selective BBs (i.e. propranolol, nadolol, timolol, and sotalol) act on both beta-1 and beta-2 adrenergic receptors. The blockade of the beta-1 receptor allows a reduction in heart rate and contractility, and blockade of the beta-2 receptors results in smooth muscle contraction and bronchospasm. The blockade of the beta-2 receptor can also lead to the constriction of blood vessels supplying skeletal muscle, exacerbating Reynaud's phenomenon (syndrome of cold hands and feet).[2]

In contrast to the first-generation agents, the second-generation agents are selective BBs (i.e. atenolol, bisoprolol, metoprolol), and they selectively act at the beta-1 receptor of the heart. The second-generation agents are preferred in patients with lung disease (i.e. asthma or COPD), who are more prone to side effects caused by non-selective agents (i.e. bronchospasm). However, it is important to note that cardioselectivity of the second-generation agents is lost when higher doses are used.[2]

The third-generation BBs have unique vasodilatory properties. They can be selective (i.e. nebivolol) or non-selective (i.e. carvidolol and labetolol). They cause vasodilation of peripheral vasculature via additional alpha-adrenergic blockade of vascular smooth muscle receptors. Some beta-blockers also mediate vasodilation via B2-intrinsic sympathomimetic activity (ISA). These beta-blockers are partial agonists of the beta-receptor (having the capacity to both block and stimulate beta-receptor activity). Beta-blockers with ISA cause less bradycardia and less coolness in the extremities. However, agents with ISA are not often used as they have not been proven to be beneficial in patients with angina, atrial fibrillation or post-MI.[2]

All beta-blockers can cause bradycardia and fatigue due to reduced cardiac output. However, non-selective beta-blockers are more likely to induce tiredness upon exertion due to reduced blood flow to skeletal muscle. All beta-blockers can cause reduced sympathetic flow in the Central Nervous System (CNS), resulting in vivid dreams, nightmares, and rarely hallucinations. Lipid-soluble beta-blockers are the greatest offenders as they have greater penetration into the CNS. All beta-blockers should also be used with caution in patients with diabetes due to the masking of symptoms of hypoglycemia (i.e. tachycardia).

Lastly, when discontinuing beta-blockers, ALWAYS use a taper. Abrupt withdrawal of BBs can lead to "beta-blocker rebound phenomenon" including tachycardia, rise in blood pressure, increased angina attacks, and worsening of heart failure symptoms. This rebound phenomenon is likely due to increased beta-adrenergic receptor responsiveness (increased sensitivity to catecholamines or rebound adrenergic hypersensitivity). Regardless of whether you choose to work in the hospital or the community, patients on high-dose BBs should be warned of the consequences of abrupt BB withdrawal[3]

Sources:
1.British Hypertension Society. (Dec, 2008). Retrieved from http://www.bhsoc.org/pdfs/therapeutics/Beta-adrenoceptor%20Antagonists%20(Beta-Blockers).pdf.
2.Albouaini, K., Andron, M., Alahmar, A., & Egred, M. (2007). Beta-blockers use in patients with chronic obstructive pulmonary disease and concomitant cardiovascular conditions. International journal of chronic obstructive pulmonary disease, 2(4), 535.
3.Koracevic, G. (2011). Significance of "beta blocker rebound phenomenon" and new suggestions how to avoid it. In Proceedings of the World Medical Conference, WSEAS (26-28 September 2011, Prague, Czech Republic), Prague (pp. 79-84)

LEARNING ON THE GO- Journal Club

Test Your Knowledge: Choosing the Right Beta-Blocker for Your Patient!

Answer these questions to see how you do!

1.Which beta-blocker would you use for a patient with mild-moderate asthma or COPD?

Answer: A cardioselective beta-blocker (i.e. atenolol, metoprolol, bisoprolol)

2.Which beta-blocker would you use for a patient with severe asthma or COPD?

Answer: All beta-blockers are contraindicated in patients with severe asthma or COPD, as even the cardioselective beta-blockers lose their selectivity at higher doses.

3.Which beta-blocker would you use for a patient with insulin-dependent diabetes?

Answer: All beta-blockers can mask the symptoms of hypoglycemia (i.e. tachycardia). So, beta-blockers are only to be used in patients with diabetes and a compelling indication (i.e. coronary artery disease). If beta-blockers must be used, cardioselective beta-blockers are preferred, as they do not exacerbate hypoglycemia. Non-selective BBs inhibit beta-2-receptors in the liver, interfering with glycogenolysis and restoration of blood glucose levels.

4.Which beta-blocker would you use for a pregnant hypertensive patient with Reynaud's disease (increased coolness at extremities)?

Hint: The fact that the patient is pregnant should not affect your choice of beta-blocker.

Answer: Beta-blockers are second-line agents in patients with hypertension as they do not prevent mortality in this patient population. However, beta-blockers are first-line in pregnant, hypertensive patients due to lower risk of fetal morphological defects. In this particular patient with Reynaud's disease, a third-generation beta-blocker or a beta-blocker with ISA may be preferred due to vasodilatory activity (and reduced coolness at extremities).

A Summary of the VESTRI Trial

Seiwon Park, 1T7

A 6-month Safety and Benefit Study of Inhaled Fluticasone Propionate/ Salmeterol Combination Versus Inhaled Fluticasone Propionate in the Treatment of 6,200 Pediatric Subjects 4-11 Years Old With Persistent Asthma.

BACKGROUND

Long-acting beta-agonists (LABAs) have been known to increase the risk of asthma-related death in children and hospitalizations in adults. Recent meta-analyses demonstrated that the combination of LABAs and inhaled glucocorticoids in children reduced the risk of hospitalization. This trial investigated the safety (e.g. hospitalization, endotracheal intubation, death, etc.) of the combination of salmeterol (LABA) and fluticasone propionate (an inhaled glucocorticoid), i.e. Advair, in a fixed-dose combination.

METHODS

Children 4 to 11 who require daily asthma medications and had a history of asthma exacerbations in the previous year were randomly assigned in a 1:1 ratio to either: Advair at fixed-dose combinations (100/50mcg, 250/50mcg twice daily) OR Fluticasone alone (100mcg, 250mcg twice daily) for 26 weeks (approximately 6 months).

The primary safety endpoint was the first serious asthma-related event (death, endotracheal intubation, or hospitalization). The statistical design was looking for non-inferiority, where the upper boundary of the 95% confidence interval of the hazard ratio for the primary safety endpoint was less than 2.675.

RESULTS

Among 6,208 patients, there were 27 patients in the Advair group and 21 in the fluticasone-alone group who had a serious asthma-related event and were hospitalized. The hazard ratio with Advair vs. fluticasone alone was 1.28 (95% CI 0.73-2.27), demonstrating that Advair was non-inferior (P=0.006). A total of 265 patients (8.5%) in the Advair group and 309 (10.0%) in the fluticasone-alone group had a severe asthma exacerbation (hazard ratio, 0.86; 95% CI 0.73-1.01). There were no asthma-related deaths or intubations in the study. The data also demonstrated that the mean percentage of rescue therapy-free days was similar in patients taking salmeterol in a fixed-dose combination with fluticasone or fluticasone alone.

CONCLUSION

In children with asthma, there was a similar risk of a serious asthma-related event in patients taking salmeterol in a fixed-dose combination with fluticasone (Advair) or fluticasone alone. There was also a similar mean percentage of rescue therapy-free days in patients taking salmeterol in a fixed-dose combination with fluticasone (Advair) or fluticasone alone.

LIMITATIONS: The study was 6 months, and there were few adverse asthma-related events.

(Funding was provided by GlaxoSmithKline; VESTRI ClinicalTrials.gov number, NCT01462344.)

Reference: https://clinicaltrials.gov/ct2/show/NCT01462344, Accessed Sept 10, 2016.

LEARNING ON THE GO- Drug Developments

Honest Drug Reviews Spotlight on New T2DM Agents!

Sandra Wood, 1T7

As a disclaimer, this is definitely not an exhaustive review of each drug; in which case, you should definitely consult the product monograph if you want to learn more!

Coming to a pharmacy near you are some nifty agents that provide alternative ways to manage Type 2 diabetes mellitus. Eperzan, Jardiance and Trulicity were all approved by Health Canada within the past year. As such, it seems only fitting to evaluate the impact these drugs may have by presenting some interesting highlights and features of each...with some added comic relief!

EPERZAN

Our first agent, Eperzan, is brought to you by GlaxoSmithKline Inc. Judging by its generic name “albiglutide” you could probably guess how this drug works. And you’re thinking, “well duh, it must be a GLP-1 agonist!”. Similar to exenatide (Byetta) and liraglutide (Victoza), it acts on the GLP-1 receptors found in your pancreas to increase the production of insulin. So now you’re probably thinking, if this drug works similar to exenatide and liraglutide, what’s the big deal? Well, that would be its half-life! Albiglutide has a very long half-life (~5 days), compared to Byetta and Victoza which are much shorter, 2.5 hours and 11-14 hours, respectively. Thus, an advantage of albiglutide is its once-weekly dosing compared to exenatide (bid dosing) and liraglutide (daily dosing). However, keep in mind, exenatide is available in an extended-release formulation allowing for weekly dosing under the brand name, Bydureon; in addition, another GLP-1 agonist (that will be discussed later) also allows for once-weekly dosing...so maybe it’s not that special after all...

Eperzan is available in 30mg/0.5mL or 50mg/0.5mL prefilled syringes. You can expect the typical dose to be 30mg subcutaneously every week. What I consider a huge disadvantage to this product is how inconvenient it is to use. The pen has two compartments to separate the medicated powder from the solvent before use. The patient “twists” the pen to mix the medication, but then has to wait 15 minutes for the medicine to dissolve before it can be used. Considering patients don’t like waiting 15 minutes for their medications at the pharmacy, I doubt they’ll be game to wait 15 minutes until they can actually use their medication.

In terms of safety, the most common reported side effects (>10%) include diarrhea, nausea (because which drug doesn’t have these side effects?) and, not surprisingly, injection site reactions (rash, erythema, itchiness). Interestingly, a concern identified is the development of thyroid C cell tumours in animal studies. This effect has not conclusively been demonstrated in humans; however, Eperazan is a “hell nah!” (i.e. a contraindication) in patients with a personal or family history of medullary thyroid carcinoma (MTC).

In summary, Eperzan is like that guy or girl you met on OKCupid - seemed great, but ended up being too high-maintenance.

JARDIANCE

From the people that brought you Trajenta, comes another T2DM drug for you to memorize for your PHM202 Small Group Seminar! Jardiance (empagliflozin) was developed by Boeringher Ingelheim (with what appears to be some involvement with Eli Lilly).

“---flozin” ...where have I heard that before? Invokana (canagliflozin)...Forxiga (dapagliflozin)...yup, Jardiance is an SGLT2 inhibitor! From what I gathered, Jardiance does not boast any startling features to set it apart from the other SGLT2 inhibitors. It is available in 10mg or 25mg oral tablets, and allows for the same convenient once daily dosing. In addition, the expected side effects are noted, dehydration (leading to subsequent hypotension), urinary tract infections, and genital fungal infections, to name a few.

Similarly, Jardiance also carries the same precaution to avoid use in patients with renal impairment if their GFR is less than 60mL/min. The possible advantage of Jardiance may be due to a better established safety profile in terms mortality and incidence of major cardiovascular events; mind you, such trials for Invokana and Forxiga are currently ongoing.

Overall impression: I can’t really say I’m too excited about this drug...

... Honest Drug Reviews is continued on the next page...

LEARNING ON THE GO- Drug Developments

TRULICITY

"True-li-city". Probably the prettiest name I've ever heard for a drug. It's generic name "dulaglutide" may prompt you to think, "wait a minute...another GLP-1 agonist??". Yes, indeed. Consider it Eli Lilly's answer to GSK's Eperzan. With a half-life of 4.7 days, Trulicity is also a once-weekly injection, available in strengths 0.75mg/mL and 1.5mg/mL.

A definite plus with this medication is its easy-to-use pen. Each pen is a single dose, and is very patient-friendly in terms of administration. Honestly, compare the "how-to-use" video of Trulicity with that of Victoza and you'll see what I mean. The patient simply uncaps the device, places the device on the instructed area of the body, then turns the dial to unlock the device, and then presses and holds the button for 5-10 seconds to deliver the medication. In terms of ease of use, Trulicity definitely beats out Eperzan. Trulicity's side effect profile also mirrors that of Eperzan.

I'd say, for the time being, Trulicity appears to be the real game-changer among the GLP-1 agonists!

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Promising Drug Study Offers Hope to Alzheimer's Patients! Ersilia D'Andrea, 2T0

A recent drug study published in Nature has shared exciting findings in the battle against Alzheimer's disease. The Phase I clinical study aimed to investigate the safety of a human monoclonal antibody called aducanumab in patients suffering from Alzheimer's, and heartening clinical changes were detected in the process. Although preliminary data from the trial was presented at the 2015 Alzheimer's & Parkinson's Disease International Conference and the American Academy of Neurology's 67th Annual Meeting, Nature has now offered more details about the investigational drug.

As part of the double-blind, placebo-controlled study, 165 patients who were clinically diagnosed with either early-onset or mild Alzheimer's were randomly given the drug or a placebo each month over a period of one year (from October 2012 to January 2014). The drug was administered to them intravenously in different doses, with patients receiving either 1, 3, 6, or 10 mg/kg. At the beginning of the study period, the patients' PET scans clearly showed beta-amyloid (Aβ) plaque buildup in their brains, which is largely thought to cause the cognitive impairment that is characteristic of Alzheimer's disease. After 54 weeks, patients who had been treated with aducanumab showed PET imaging with visibly reduced Aβ plaque in a dose and time-dependent manner. Those who had been given the highest dosage of the drug at 10 mg/kg showed barely any plaque in their PET scan by the study's end. Furthermore, although researchers did not intend to measure clinical effects of the drug, patients scored high on a Clinical Dementia Rating and Mini Mental State Examination, indicating that they experienced a slowing down of clinical cognitive decline.

These results are prompting many experts to consider aducanumab as a possible breakthrough in the often disappointing road to finding a treatment for this debilitating neurodegenerative disease, which is the most common form of dementia. Overtime, progressive brain cell death leads to cognitive decline and memory loss, and eventually an inability for Alzheimer's patients to perform daily activities and care for themselves. Although a definitive cause of brain cell death has not yet been found, a large body of genetic, neuropathological, and cell biological evidence from post-mortem examinations of the brain points to the accumulation of Aβ plaque as the culprit. This type of plaque is formed when protein deposits clump together on neurons, essentially clogging up the brain and leading to synaptic dysfunction and cell death. For this reason, therapeutic agents that specifically target this toxic Aβ plaque have been sought after. Until now, however, it has been a challenge both to find an effective antibody that selectively targets amyloid plaques in the brain and to choose the right patient population...

... Promising Drug Study is continued on the next page...

LEARNING ON THE GO- Drug Developments

Aducanumab is one of three experimental antibodies (the others being solanezumab and gantenerumab) that have been studied as candidates for Alzheimer's treatments in both mice and humans in recent years, and has been the most encouraging when it comes to benefiting Alzheimer's patients. It was developed by the multinational Massachusetts-based biotechnology company Biogen, Inc., which initiated European Medicines Agency's PRIority MEdicines (PRIME) Program. The program was an effort to boost development of treatments for illnesses that lack good therapeutic options. The first human trial for the drug was supported by pre-clinical investigation of amyloid plaque reduction in transgenic mice. In these mice, aducanumab penetrates the brain and binds to Aβ plaque, also reducing it in a dose-dependent manner. The drug is currently in the midst of Phase III clinical trials, and has a long way to go before gaining approval from the FDA. At this point, the goal is to further determine the clinical effectiveness and side effects of aducanumab, as initial trials were meant to simply ascertain how safe and tolerated it is in humans. Increasing the size of the study cohort is especially important to determine statistical significance of early phase results, because throughout the course of the Phase I trial, 20 patients dropped out due to adverse side effects. The most common of these side effects, which were mild and appeared in a dose-dependent manner, included headaches, urinary tract infections and respiratory tract infections. These were caused by what is known as amyloid-related imaging abnormalities (ARIA). Swelling of the brain is possible in severe cases of ARIA, but there were no drug-related hospitalizations or deaths of patients involved in the study. Phase III trials are ongoing in several locations around the globe, with 1350 participants involved this time around.

A number of mechanisms of action are hypothesized for aducanumab. The most likely scenario is that the drug enhances the recruitment of microglia, a glial cell that is the main immune defense cell in the central nervous system. The microglia are macrophages, which phagocytose (or eat up) Aβ plaque. In addition to the therapeutic effects of the drug, its mechanism of action has also provided further proof that amyloid plaque is to blame for the disease and that focus on this aspect of the disease is merited.

Despite the optimism that many experts are showing for the drug, it has its critics. After all, the track record for drug treatments aimed at Alzheimer's disease is not a good one. For over more than twenty years, upwards of 100 candidate drugs have failed in delivering positive results for those with cognitive decline, making some experts quick to caution aducanumab's potential. However, it is difficult not to feel optimistic given this latest data on the drug, especially since in just over one year, it diminished amyloid plaque that may have accumulated over decades. Despite there being some drugs which temporarily ease symptoms associated with cognitive changes in Alzheimer's patients, none have yet to cure, prevent, or halt the disease in its tracks. Commonly prescribed drugs for varying stages of Alzheimer's patients include cholinesterase inhibitors such as donepezil, galantamine, and rivastigmine as well as memantine, which regulates the glutamate receptor NMDA that is associated with learning and memory function in the brain.

For the millions of people presently living with Alzheimer's worldwide and their loved ones, any glimmer of hope is being embraced - however cautiously.

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Canadians and Dementia
By the Numbers

564,000
people currently living with demetia

25,000
new dementia diagnoses each year

65%
of pts with dementia over 65 are women

937,000
projected total pts living with dementia in 15 years

1.1 mill.
people are directly or indirectly affected by dementia

10.4 bill.
annual cost to canadians to care for those with Alzheimers

LEARNING ON THE GO- Drug Developments

Fast Facts about Praxbind

Leyla Warsame, 1T7

During a typical day in community pharmacy, it's not surprising to have a couple sales representatives from pharmaceutical industries come by and drop off some leaflets about their new, amazing, no side-effects guaranteed! product. This is how I first came to hear about PraxBind, however, when I saw this drug being used on my hospital rotations I decided to do some more digging. So here are 4 quick facts about Praxbind:

1. It's a reversal agent: Praxbind reverses the anticoagulant effects of dabigatran (Pradaxa) and can thus be used in emergencies such as life-threatening or uncontrolled bleeding. It also can be used prior to emergent or urgent surgery to reverse the anticoagulant effects of dabigatran so that surgeons can operate quickly and safely, rather than waiting 5 days for Pradaxa to be cleared from the patient's system.

2. It's a humanized monoclonal antibody: It specifically targets, binds and essentially neutralizes dabigatran. Its affinity for dabigatran is 350-fold more potent than dabigatran's affinity for thrombin, making it incredibly specific, thus providing a good safety profile.

3. It works incredibly fast: PraxBind binds and reverses the effects of dabigatran within minutes.

4. It does not mean that Pradaxa (Dabigatran) is a superior choice in anticoagulation: Praxbind is an amazing reversal agent which may tempt you into thinking that it must be safer for patients to be on dabigatran because "Hey! There's a reversal agent!" However, PraxBind is limited to the setting of surgeries and emergencies and most likely needs to be provided by a trained health care professional. Furthermore, many trials have shown that dabigatran has a higher risk of intracranial hemorrhage compared to other agents (i.e. apixaban, rivaroxaban and warfarin). Lastly, it's also mostly renally cleared leading to a risk of accumulation in patients with renal insufficiency and is therefore contraindicated in patients with a CrCl < 30 mL/min.

IN THE NEWS- Pharmacy Perspectives

Ontario's Naloxone Program

Farhat Hossain, 2T0

In Ontario, one of the leading causes of accidental death is opioid overdose.[1] CityNews reported that between 2011 and 2014, Ontario has had 2,471 opioid-related overdoses.[2] Individuals are at risk of experiencing an overdose if they have just begun to take, or if they are tapering off, opioid drugs.[1] Additionally, regions in Ontario where opioids are frequently prescribed are associated with a high incidence of opioid-related deaths.[1] In 2012, the provincial government attempted to address this issue by introducing legislation to remove oxycontin from the Ontario Drug Benefit formulary with the goal of reducing the amount of opioid drug-related deaths.[2] While the use of oxycodone may decrease, other opioids such as heroin and fentanyl may be used instead.[1] Since the 2012 legislation was introduced, oxycodone overdose deaths decreased by 30%, however, opioid-related deaths increased by 24%.[2]

A recently proposed solution to this public health concern is the implementation of the Ontario Naloxone program at community pharmacies.[4] Naloxone is able to reverse the effects opiates for about 30 to 90 minutes to allow the individual to seek medical attention.[1,4] The symptoms of opioid overdose include clammy skin, having the lips or nails turn blue, seizures, muscle spasms and shallow breathing.[1,3] As an antagonist, naloxone outcompetes opioids at receptor sites in the part of the brain that controls breathing.[1] Following administration of naloxone, normal breathing is restored within 2-3 minutes.[1] Interestingly, naloxone is not addictive and does not affect the individual in the absence of opiates.[1,4]

The Ontario Naloxone Program is a harm reduction strategy, and its goal is to reduce the harm of the drug and improve accessibility of these services to individuals.[1] In 2011, Toronto introduced the POINT (Prevent Overdose in Toronto) program which was the first community-based overdose prevention and response program with naloxone distribution.[5] Individuals using opioids received training regarding risk factors associated with opioid overdose, recognizing signs and symptoms of overdose, calling 911, naloxone administration and post-overdose care.[5] The program trained 209 clients in the first eight months. In the 17 naloxone administrations, all had successful outcomes.[5]

As of June 24, 2016, naloxone is available as a schedule II drug for emergency use for opioid overdose.[4] This allows patients to access naloxone kits from any community pharmacy without a prescription and is able to be dispensed free of charge to qualified patients.[6] The Ontario College of Pharmacists outlined that the naloxone kits may include two safety syringes, a rescue breathing barrier, ampoule-opening devices, a pair of non-latex gloves and alcohol swabs as well as a naloxone identifier card.[4]

...Ontario's Naloxone Program is continued on the next page...

IN THE NEWS- Pharmacy Perspectives

The pharmacist's role will be pivotal in the successful implementation of the naloxone program. They monitor the use of naloxone as well as provide education for the safe administration of naloxone to patients. Ultimately, the increased accessibility of this service offers a promising solution to decrease the incidence of opioid-related deaths in Ontario.

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Ontario's Patch-For-Patch Program

Josephine Ho, 1T9

Since 2012, when Oxycontin was replaced with OxyNEO (a formulation that is harder to misuse), fentanyl has become the new popular drug for illicit use. From 2008 to 2012, the number of fentanyl-attributed deaths increased from 45 to 116 (OACP, 2014). The street value and demand of fentanyl patches has also dramatically increased.

Fentanyl patches are formulated to transdermally release a steady amount of medication over 72 hours, after which it is to be removed. However, these used patches still have a substantial amount of drug in them. Patches can retain 60% to 80% of the original dosage. Fentanyl diversion is, as a result, a huge concern. The gel can be extracted from used patches and then smoked, chewed, injected, or dissolved under the tongue. A single patch can lead to lethal consequences, and can cause slowed breathing, nausea, constipation, drowsiness, and coma (OACP, 2014).

By the end of 2013 in North Bay, 15 overdoses of fentanyl had been seen over a 6 year timeperiod. In efforts to combat this figure, the Drug Strategy Committee joined forces with the police, physicians, and pharmacists to come up with the Patch-For-Patch program. The goal of this program is to prevent fentanyl diversion and promote the safe and effective use of fentanyl patches. The program requires patients to return used patches to the pharmacy before new patches can be dispensed. Patients stick their used patches on a sheet of paper (templates provided from the pharmacy) and then store them in a safe place until they visit the pharmacy for the next part fill. When returned to the pharmacist, the pharmacist must ensure the correct quantity and authenticity of the returned patches. Only then will they dispense the next set of patches. If for instance, only 8 out of 10 patches were returned, then the pharmacist can only dispense 8 new patches. If this happens frequently, the pharmacist will direct the patient to be re-assessed by their physician.

This program requires both the physician's and the pharmacist's support. Physicians are required to write on the fentanyl prescription that the pharmacist has to collect used/unused patches before dispensing the next set. They are also encouraged to prescribe no more than 10 patches at a time. Pharmacists are responsible for carrying out the physicians instructions in dispensing, explaining the program to patients, and of course, collecting used patches. Once returned to the pharmacy, the patches are to be stored in a drug disposal bin and destroyed properly.

Bill 33, Safeguarding our Communities Act (Patch for Patch Return Policy), was granted royal assent on December 10, 2015. It will come into force on October 1, 2016. It has already been implemented in some parts of Ontario, especially in North Bay, where it originated. It has been widely successful overall but some problems do arise. For instance, some patients may return counterfeit patches or cut up patches. In this event, pharmacists are to advise the patient that it is a criminal offense to legally obtain narcotics and that they need to bring the used patches intact before more will be dispensed. If any fraud or diversion is suspected, they should contact law enforcement authorities. Another obstacle is when patients say they have lost patches and therefore cannot return the full quantity. In these situations, the pharmacist is advised to redirect the patient to the physician for re-assessment of fentanyl use.

Overall, this program has shown a successful track record in reducing fentanyl diversion. It will be interesting to see it in full force this fall!

For more information, please visit: http://www.oacp.on.ca/news-events/news-releases/new-resource-document-addresses-fentanyl-abuse.

Ontario College of Pharmacists
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IN THE NEWS- Headlines in Healthcare

Advances in Treatment Methods Against the Zika Virus

Narthaanan Srimurugathasan, 2T0

Although the Zika virus was discovered in 1947, it was largely unnoticed until the outbreak in South America last year. Common symptoms include a mild fever, rash, and red eyes, but 80 percent of individuals with the infection report no symptoms. However, the Zika virus has been linked to brain abnormalities in newborns of mothers with the infection during their pregnancy. This includes microcephaly, a severe birth defect resulting in undersized heads. The virus may also trigger Guillain-Barré syndrome (GBS), a neurological disorder which results in weakness of muscles, and in extreme cases, paralysis.

Similar to the dengue and chikungunya viruses, Aedes aegypti is the principal mosquito species responsible for transmitting the Zika virus. Oxitec, a British insect control company, has proposed the creation of a self-destructing, genetically-engineered mosquito. Such mosquitoes would have a mutation that makes them dependent on a specific chemical to survive. When males have been fed enough of the chemical to stay alive, they can be released into the wild to reproduce. The offspring will inherit the mutation and die before they reproduce. Since male mosquitoes don't bite and their offspring die before maturity, there should be no associated health risk. The Aedes aegypti population is effectively decreased. This approach has been tested in countries including Malaysia and Brazil, where the wild species population was reduced by greater than 90 percent.

A similar approach was proposed by the American MosquitoMate, a private company that aims to control mosquito populations. Male mosquitoes would be infected with strains of the Wolbachia bacterium. The bacterium, which is found in 60 percent of common insects, does not infect humans or animals. When males mate, many of the eggs do not hatch, thus controlling the Aedes aegypti population. However, the problem with the release of genetically engineered mosquitoes is that it may result in an unbalanced ecosystem. The removal of a species and its niche presents a disturbance for other species within that environment.

Many scientists are looking to repurpose old drugs against the Zika virus. Due to the similarities among the dengue, chikungunya, and Zika viruses, researchers are testing older antiviral drugs to see whether they might block an infection or prevent the side effects of the infection. For example, the antimalarial drug chloroquine has been shown to inhibit dengue. Virologist Amilcar Tanuri of the Federal University of Rio de Janerio has suggested that the drug might work against the similar Zika virus.

There are many challenges with repurposing old drugs. Even if scientists identify compounds that can be repurposed against Zika, the necessary dose might be too high for people to take safely. Moreover, RNA viruses like the Zika virus accumulate mutations through replication that might help them to develop antiviral resistance at a faster rate. As there are currently no approved drugs for the virus, developing a new drug can take 10 to 20 years. Even if only mildly effective drugs are identified through repurposing, it could identify potential mechanisms for scientists and accelerate the development process.

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IN THE NEWS- Headlines in Healthcare

Treating Cocaine Addiction With a Pill: Fiction or the Future?

Stela Danaj, 2T0

According to a 2013 survey, cocaine is the third most used substance amongst the general Canadian population after alcohol and cannabis. Though only about 1% of the population has reported cocaine use within the past year according to The Canadian Tobacco, Alcohol, and Drugs Survey (CTADS), this amounts to roughly 259,000 people. The highly addictive nature of cocaine makes it likely that many users will face the debilitating effects of cocaine dependence. Addiction significantly impacts the quality of life of those affected by it and it is most prevalent amongst already high-risk groups (such as youth or the homeless) who are less likely to seek and receive treatment.

Despite the many advances in modern-day medicine, treatment for addiction has progressed surprisingly little. Traditional rehabilitation programs claim about a 30% success rate on average, and this includes only those who finish the program, not accounting for the many that drop out part way through. Considering these statistics, it is clear that a significant amount of work needs to be done in advancing the medical options available for those ravaged by addiction.

A new study published in the eLife journal by a group of scientists from Cardiff University claims that administration of a drug that is currently being used in cancer therapy trials may be able to cure cocaine addiction. The drug acts by inhibiting the Ras-ERK signalling pathway in the brain, which is widely implicated in the development of uncontrolled, compulsive drug-seeking behaviour. Essentially, signalling in this pathway is responsible for forming an association between drug use and the rewarding effects that result. The intense, long-term memories formed and the strong association between drug use and reward lead to addiction. The drug in question, called PD325901, is able to inhibit this pathway and destroy the intense memories and associations of reward with drug use.

Though the link between the Ras-ERK pathway and addiction has been known to scientists for quite some time, no clinically relevant applications have been discovered due to the toxicity and inability to cross the blood-brain barrier of the drugs explored thus far. PD325901 has a relatively low toxicity and is able to cross the blood-brain barrier; this study is the first to explore its therapeutic effects on drug addiction. The subjects of the research were mice and the results showed that one single administration of the drug was able to significantly advance the extinction of memories and associations responsible for cocaine addiction. Researchers have reasonable cause to believe that similar effects may be produced in humans at similar dosages. The ongoing clinical trials for the use of PD325901 in cancer therapy have found that neurological side effects such as visual disturbances, dizziness, hallucinations, and balance disorders may occur. More significantly, there is a concern that memory impairments may adversely occur as a result of Ras-ERK pathway inhibition. However, these adverse effects are documented in repeated oral administrations of the drug at higher doses. If the results in mice subjects are able to translate to humans, only one small dose of PD325901 may be enough to prevent drug relapse. At this small, single dose, side effects may be completely avoided and the need for extended complex therapy may be completely eliminated.

While the journey from this initial study to your local pharmacy shelf may be very long and potentially fraught with complications, we may one day be able to treat drug addiction with the simple administration of a pill. After decades of little progress in drug addiction treatment, this may be the breakthrough that propels us into the future of addiction therapy.

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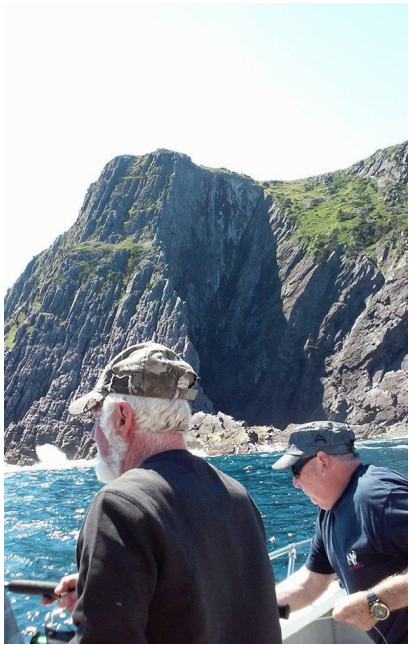
IN THE NEWS EXTENDED- Places to Go, Things to Do

Cod Jiggin' By Da' Bay

De Zhao (David) Jiang, 2T0



In Newfoundland, cod jigging is a form of fishing that locals partake in each year during the short summer months. During the fishing season from July to September, each fisherman is allowed a limit of 5 fish per day, up to a maximum of 15 fish per boat. Since there are only a few days each summer, weather permitting, when the public can fish for cod, cod jigging is a very popular event that attracts both locals and tourists alike. In the past, cod fishing was a way of life for many Newfoundlanders, and was a prominent part of the province's economy. However, due to overfishing in recent years, cod fish are harder to find today than ever before. Despite all this, the average cod fish can still measure 1-2 feet in length and weigh 5-15 pounds, although larger specimens can grow up to 5 feet long and weigh 100 pounds.

A typical cod jigging trip involves being out on open waters, armed with nothing but a simple hand reel called a jig, lead weights, sharp hooks and an adventurous captain. Despite their overfished status, cod can still be easy to find. In general, cod can be readily found close to shore, oftentimes no more than a football field's length away from the shoreline, as long as the waters are deep. Usually, captains search for cod by moving their boats into waters between 70 and 150 feet deep, all the while scanning for fish using SONAR. Once on top of the fish, we simply release the line from our jigs and allow our hooks to sink all the way down to the ocean floor. Then, we reel in about 2-3 feet of line and begin tugging on it once every 5 or 6 seconds to snag passing fish. If we're fortunate, we would feel a dead weight on our line, and can begin to pull up. Unlike many other fish, cod give little to no resistance when caught; so once hooked, it simply becomes a matter of pulling the fish up to the surface.

Once back at the dock, 2 fillets are removed from the sides of each fish and the tongues are cut out (pan fried cod tongues are a delicacy in Newfoundland), while the rest of the fish is discarded, ready to be snapped up by hungry sea gulls circling overhead. In addition, the skin is removed from the fillets, leaving clean, white slabs of supermarket quality meat. At home, both the fillets and tongues can be prepared in a number of different ways, with pan-fried being the clear favorite – dipped in milk and flour, and browned in a skillet of pork fat, complemented with tartar sauce, fries and a cold glass of beer.

This summer, my brother and I were fortunate enough to go cod jigging twice, landing 15 fish each time, including a couple of 20 pounders. Both times, we were rewarded with a big meal of fish and chips, piled high with pan-fried cod tongues and scrunchions.

IN THE NEWS EXTENDED- Recipes

Cooking Without Scales: Pineapple Cake

Shan Liu, 1T9

As the sun rises, it's a new semester! This is a moment when we have a bit more free time to spend on baking. The pineapple cakes made based on this recipe taste delicious by combining the correct amount of sweetness and tartness. However, it does take a lot more time than baking chocolate chip cookies, which is perfect since we are not worrying about exams yet!

The ingredients you'll need to make the Pinapple Cake are:

- 1 Fresh GOLDEN pineapple (make sure it says golden): use one whole one if it is small, or a half if jumbo.
- 2 large crystals of crystal sugar (can be found at Asian grocery stores)
- 2 tablespoons of maltose (can be found at Asian grocery stores. May also substitute with corn syrup)
- ½ cup room temperature unsalted butter (use a good one, try Lactantia!)
- ¼ cup of sugar
- 1 egg (room temperature)
- ¼ cup of flour
- ¼ cup milk powder
- 1 teaspoon of baking powder

To make the Pineapple filling:

Core the pineapple, slice it up, and get it finely diced in a food processor.

Squeeze out the excess fluid to have pineapple juice and cook the pineapple paste in a saucepan with crystal sugar and maltose until it is no longer watery.

To make the shortbread wrapping:

Combine sugar to butter, and cream it up.

Add the egg and mix well.

Add milk powder, flour, and baking powder, and press it in by hand until well mixed.

After this, you need to wrap your fillings with the wrappings! The proportion of the two depends on your skill level. Starters should use more wrappings to prevent breaking, and experienced bakers can be a bit more dangerous!

Bake them in the oven at 390°F for 12 minutes. Take the baking sheet out, and flip each one of them upside down. Use 2 knives to flip, as it helps with the process. If you used 2 baking sheets, swap them as well. Bake for another 9 minutes.

And there it is!

I wanted to make a batch before sharing this recipe. It took me 3 minutes to core the pineapple, and we ate it all within 3 minutes. It was delicious, and I definitely want you guys to try it out!

IN THE NEWS EXTENDED- Restaurant Reviews

Dessert Shops on Queen Street West

Donna Yang, 1T9

Queen Street West is known as the fashion district in Toronto due to the array of clothing, fabrics and sewing supplies that are found in the shops along the street as well as the art and design district. In fact, it is named as the second coolest neighbourhood in the world by Vogue magazine. What you may not have known are the many hidden pastry and dessert shops along the street. The shops listed below starts at Queen Street West and Spadina Avenue, moving its way towards west on Queen Street West and Ossington Avenue.

Kekou Gelato, 394 Queen Street West

Are you tired of the typical classic flavours like vanilla, chocolate, and cheesecake for gelato? Then you must try the gelato from Kekou, which offers a variety of flavours, mostly Asia-inspired from durian to milk tea and black sesame. My personal favourites include Vietnamese coffee, HK milk tea and whiskey green tea. Price-wise, it is totally worth it for its quality, where a small gelato is about $3.

Butter Avenue, 477 Queen Street West

If you love macarons, then Butter Avenue is a place for you! It provides a selection of unusual flavours for you to choose from. I also like the St. Honore Earl Grey Tart, which is a tart base filled with earl grey cream topped with two macarons. You pretty much get a taste of the different pastries, all in one shot!

Nohohon Tea, 467 Queen Street West

When bubble tea is mentioned, the first thing that comes to mind would be Taiwanese bubble tea shops such as Cha-time or GongCha. However, the bubble tea offered at Nohohon Tea has its inspiration from Japan. Tokyo Fog with tapioca would be a good drink to order if you like matcha with vanilla like myself.

Sud Forno, 716 Queen Street West

Are you a fan of Nutella? Then you must try the Bombolone with Nutella from Sud Forno, which is a fried doughnut that is filled with Nutella. Alternatively, it can also be filled with custard if Nutella is not your cup of tea.

Nugateau Patisserie, 717 Queen Street West

An éclair-only shop that has a broad range of flavours to choose from, including multicultural flavours such as Japanese Matcha and Brazilian Coconut.

Nadege Patisserie, 780 Queen Street West

If éclairs are not enough to satisfy you, there is Nadege Patisserie that offers a wide selection of French treats and sweets including pastries, macarons, croissants and chocolate.

Sweet Olenka's, 1050 Queen Street West

Sweet Olenka's offers baked goods, ice cream and truffles just like most of the places listed above, but what makes it unique is the fact that it offers gluten-free and vegan products.

Next time when you are hanging out along Queen Street West and have the urge for some sweets, stop by one of the shops above and give it a try if you have not already!

Photos courtesy of blogTO

IN THE NEWS EXTENDED- Restaurant Reviews

Maha's Brunch: Truly Worth the Wait?

Shakira Hakim, 1T8

I've eaten at this establishment three times - which is three times more than most. It could be contributed to a stroke of luck or I might have more free time than the average person. Either way, I'll start off with a key piece of information and that is that this place has the most horrid of wait times. They've got about 6-7 tables contained in a very small space and a wait time ranging from 30 minutes to 2 ½ hours. In my experience, go as early as you can on a weekday to avoid a line-up (except Wednesday because they're closed).

This is a family-run business and they've flourished every nook and cranny with a little bit of Egypt. There aren't any Cleopatras or hieroglyphics on the walls, but you will find antique wooden chairs, beautiful paintings, and many knick knacks. It is a little cramped which is why you may want to keep your party to 5 people or less.

Usually, I skip right over drinks because I can never finish my meal. However, they have two drinks that made my whole experience here. If you're a tea lover, I suggest the mint tea which is made with fresh mint leaves. Buy a pot to share with your group if you're feeling frivolous. If you enjoy something with a little more caffeine, try the honey cardamom latte. The cardamom is infused throughout and the little bit of honey that sits atop sweetens every sip.

You will leave stuffed if you opt for a main on the front page of their menu. If you're the type of person who ends up begging people to finish the rest of your meal, then I suggest getting a sandwich. Their main staple is the Cairo classic which is true to its name of a traditional Egyptian breakfast. The many flavors in one plate mesh well together. It features a hard-boiled egg, falafel, fava beans, and salad. Other dishes to note are the date grilled cheese, lentil soup, arnabeet, and mind-blowing chicken sandwich. Lastly, it wouldn't be breakfast without some sort of addictive carbohydrate. Their cumin home fries are seasoned to perfection and come with a wicked sauce on the side. If you're not already drooling, I don't know what's going on.

Price-wise, the place does well for brunch. It's not the Ritz, but does better than your average egg McMuffin - and the prices resemble that. The food is clean, fresh, and delicious. However, the 1-hour wait to get seated is one thing, but they take equally as long to prepare their food. Order a drink to tide you over, but please don't maim me with your toasted egg bun when it takes 1 hour for your food to come out. My overall verdict is that it's worth trying once in your life but definitely not worth the wait. You may be blessed with the patience of a saint and turn out loving the experience, but I'm always hoping my telekinesis kicks in so I can motion over my home fries.

ENTERTAINMENT- Feature Films

Suicide Squad Review

Joseph Correia, 2T0

After all the hype surrounding David Ayer's "Suicide Squad", DC's latest film to build upon its Cinematic Universe, one very important lesson was learned – trailers can be very misleading. The trailers promoting this movie were astounding. They were edited to perfection with a cool and diverse soundtrack surrounding them and the movie seemed to be a promising resurgence from DC's previous endeavor "Batman v Superman: Dawn of Justice". However, only the first twenty or so minutes of the film gave us the light and fun-filled adventure that was promised.

The film only had one redeeming quality, but it was a big one. For the most part, the characters were very well done. Will Smith brought his iconic charisma to the character of Deadshot and was the most developed character in the movie along with Margot Robbie who played a very captivating and comedic Harley Quinn. She did an excellent job with the character and was clearly heavily influenced by the 90's "Batman: The Animated Series". Viola Davis was also good as the intimidating Amanda Waller, although some of her character's motivations, in one scene in particular, were a little unclear. Even Jai Courtney, a man who has failed to provide any sort of depth in his previous roles, made for an entertaining and quirky Captain Boomerang. As for Jared Leto's Joker...well...he was okay. The problem with that is the Joker can never just be okay, because it's the Joker. This is the villain of all villains. When he was on screen, he was intriguing, but that's where the performance stopped. The intrigue never amounted to anything, because he didn't do all that much. However, I am still interested to see what Leto can do with this character with more screen time and with more to do than just chase Harley Quinn around Gotham.

Aside from the story itself, which, when examined closely, doesn't seem to hold up, my biggest issue with the film is that the mission these characters go on is quite boring. Their big threat is the villain Enchantress played by Cara Delevingne, a very silly villain who apparently must dance to conjure her powers. This involves the Suicide Squad fighting a very poorly designed, dispensable army (similar to the the Chitauri of the Avengers), and a finale featuring laughable CGI effects that are hardly on par with the effects of the early 2000s. Another major issue with this film is its seemingly random fluctuations of tone. The movie starts off colourful and fun as promised by the trailers, but ends up taking place in a dark and dreary city for most of the film. Also, while the soundtrack is great, it didn't seem to have a context or add anything unique to the scenes the way the soundtracks for "Goodfellas" or "Pulp Fiction" did for their respective movies. While the film is not that great, it was fun to see these characters in action and I do hope to see them again in a better movie.

Verdict – 2/5

Photo: courtesy of screenrant.com

ENTERTAINMENT- Campus Drama

Tideline and the Tides of Life with Danny Ghantous

Lyudmyla Pashkivska ,1T9

> "You know what, I am never going to be happy if I don't go for this, I'll always regret and I'll always say what could have been."

Danny Ghantous is the lead actor in the upcoming Hart House production of Wajdi Mouawad's Tideline. This play is about the journey of a Canadian man to Lebanon, the native land of his family. This is Danny's fifth theatrical role this year. He received the Toronto Theatre Critics Award for Best Supporting Actor and was nominated for a Dora Mavor Moore Award for an Outstanding Performance. I interviewed Danny about the play and his career before a rehearsal in late August.

Q: Tell us about Wilfrid, the character you play in Tideline.
A: Wilfrid is a boy who loses his father very suddenly and he's forced to make arrangements for his burial. His mother was lost during childbirth and his father was quite estranged his entire life. Throughout toil and trouble,, [Wilfrid] comes to a conclusion that he has to bury his father in his homeland. He's informed, when he goes to the village that there isn't any room in their graves. So he travels from village to village trying to find a proper resting ground for his father, dragging around his body, a rotting corpse, this entire time.

Q: You have a Lebanese background. Do you feel like that helps you connect to this character more?
A: Yes. I've worked on Wajdi's plays before and there is a deep connection when reading his work. In one of his plays, Dreams, one of the characters says the words that [are] exactly what I'm feeling.

Q: What made you serious about working in the theatre?
A: I think in the back of my mind, I always wanted to be an actor but it was never a serious thought. I strived to imitate and entertain. [In] 5th or 6th grade, I moved to Dubai and there was something in me that my [drama] teacher liked, something about my work, even though I was just playing with the circumstances. She asked me to try out for a play; I was very, very excited and on the day of [the audition], I got too scared, fear of failing in front of everybody else. So I didn't go. [At] school the next day [the drama teacher] said, "Ok, I already cast you in it, you don't have to audition." And so, ever since then, I really liked theatre. I did drama [in high school]. I was going to go into architecture actually, and last minute I [thought], "You know what I am never going to be happy if I don't go for this, I'll always regret and I'll always say what could have been." I tried out for different universities around Ontario, got into all of them I auditioned for actually, and then 4 years later after going to Ryerson theatre school, I'm here.

Q: What is your strategy for acing auditions?
A: Acing, I don't know I could ever ace an audition. My strategy for auditions depends on what they're asking of me. If they're saying come in with a monologue, at this point I attack the monologue that is both active and connects with me deeply and personally. If it connects on a deeper level, that is what's really going to help me in the room, because they want to see a piece of me. Playing, keeping it active, knowing who you're talking to, who else is in the room, the five basic things where, when, why, how, and that's pretty much it. Try not to get nervous, don't let them see your hands sweat.

Q: Do you have any lucky charms or rituals before auditions that help you succeed?
A: Coffee, coffee helps. I honestly can't say, besides coffee, probably eating little to nothing or eating too much. Coming in and my warm-ups, movement warmups, vocal warmups.

The Interview with Danny Ghantous continues on the next page...

ENTERTAINMENT- Campus Drama

The interview with Danny Ghantous continues from page 22...

Q: What superstitions have you come across at Hart House or other theatres?
A: Not any yet at Hart House. I don't believe in anything really much, which helps with this character because Wilfrid doesn't believe in anything either, or at least doesn't think he believes in anything.

Q: What roles in the future would you like to play, your dream role, your ultimate role?
A: There are too many roles, maybe something in Last Days of Judas Iscariot. Down, down, down the line Lear. I would love to play Lear, it is just a beautifully written role.

Tideline will be running September 16th to October 1st at the University of Toronto's Hart House. Other productions that will be performed on this historic stage are Much Ado About Nothing, Carrie: the musical and 7 Stories. For tickets, contact the UofTTix Box Office located on the ground floor of the Hart House. This year's lineup is very promising, I'm looking forward to attending all of these productions and bringing you more interviews from the professionals involved in theatre.

Photo courtesy of
http://harthouse.ca/tideline-cast/

ENTERTAINMENT- Recommended Reads

Rowling's Return: Harry Potter and the Cursed Child

Naomi Lo, 1T8

After the illustrious era of Harry Potter ended in 2011 with the final film of the series, many of us (including me) who grew up reading about Hogwarts and secretly hoping to be able to fly on a broomstick were heartbroken. Although the books and films will always exist to let us escape into the wizarding world, it is inevitably different when there is no new story to look forward to. Hence, news of a new Harry Potter sequel in the form of a play was met with surprise, anticipation, and understandably, trepidation. Fans of J.K. Rowling's writing had misgivings about a sequel, as the original series had ended on a high note and the majority of readers were satisfied with the ending. Also, the scriptwriter would not be Rowling herself, which makes one wonder about the authenticity and consistency of the narrative thus adding to the apprehension leading up to the play's premiere.

However, after reading the Special Rehearsal Edition of Harry Potter and the Cursed Child, I am both relieved and pleased with this unforeseen sequel. With Jack Thorne as the main playwright and the play based on a story written by Rowling, John Tiffany, and Jack Thorne, the writing style differs significantly from the original Harry Potter series. Since it is technically a script, there are only dialogue and brief descriptions of the scenes, which is nearly the opposite of Rowling's well-known prose of in-depth depictions and detailed imagery. As a result, readers will have to learn to read between the lines and get used to the new writing style. As well, another drawback is the actions and dialogue of some beloved characters that appeared rather jarring and unexpected.

However, despite its flaws, it is a worthy sequel with plot twists, new characters, and insightful messages. The story starts 19 years after the last novel, focusing on Harry's son Albus and his best friend Scorpius Malfoy, and how they find themselves entangled in a succession of events that may bring back darkness. There is some humour, but it is mostly a serious affair that will captivate your attention and keep you guessing until the end. Nonetheless, the play should be more exciting, as that was the medium it was originally intended for. Rumours of the play coming to North America have been going around, so watch for any news about it!

OPINION- Interests and Perspectives

Four Things You Should Know About Veterinary Pharmacy

Natalie Ternamian, 1T8

This article was adapted with permission from Frankel et al. The original article, "Five things every community pharmacist should know when dispensing for 4-legged patients", appeared in the March-April Edition of the Canadian Pharmacists Journal (Vol 149, No. 2).

Meadow, above, can be seen with a Fentanyl patch on her left side

It's not all just about "hospital" or "community" pharmacy. Welcome to the world of veterinary pharmacy. Not too long ago, a close friend asked me if I knew of any good ways to stick fentanyl patches on her 15-year-old golden retriever, Meadow. Meadow has elbow dysplasia, and it was causing her much anguish and pain. Her owners had tried clipping and shaving the area for application, but Meadow's abundant hair made it difficult for the patches to adhere. I suggested oral or injectable alternative formulations for Meadow's pain, but they had already been tried and were unsuccessful. I was unprepared to answer the question, so I asked a friend who is in vet school about it. In the end, consistent use of hair removal cream did the trick! Meadow has been able to successfully use the fentanyl patches, and her demeanor has improved significantly!

Around the same time, while working in a community pharmacy, I was handed a prescription for levothyroxine- not for a human, but for a dog. More and more, pharmacists are seeing scripts for pets. If you happen to come across one, authors Frankel et al. address a few things we should keep in mind:

1. Steer clear of OTC pain meds for animals

It might seem like an easy option to grab some Tylenol off the shelf and to give it to your pet in pain, but it's important to remember that animals have different A-D-M-E principles than humans. For instance, acetaminophen is contraindicated in cats, since they lack the appropriate hepatic enzymes to metabolize it. Acetaminophen is also poorly metabolized in dogs, and so their pain management revolves around NSAIDs instead.

2. Use prednisoLONE in cats, not predniSONE

PredniSONE is metabolized in the human liver to its active form, prednisoLONE, but cats do not metabolize predniSONE in the same way. PrednisoLONE has a much higher bioavailability in felines than predniSONE, and should therefore never be substituted with predniSONE. If it were, the cat would be at risk of therapeutic failure secondary to subtherapeutic glucocorticoid concentrations.

3. Fido's levothyroxine dose is different than yours

Thinking the dose is too high for that Corgi standing in front of you? Think again. Canines actually require much higher doses of levothyroxine per kg than their human counterparts. For instance, the initial dose of levothyroxine in humans is 1.7ug/kg once daily, while in canines is 20ug/kg twice daily2. Levothyroxine exhibits differences in pharmacokinetics in dogs (shorter half-life, poorer absorption) as well as physiological differences in dogs (larger requirement of thyroid hormone per kg) than in humans.

4. Diabetes is not just a human's disease

You may also come across prescriptions for pets with diabetes. Insulin is the mainstay of treatment in both cats and dogs3. It's important to consider insulin administration, recognizing signs and symptoms of hypoglycemia in the animal, and educating their owners on what to do about it.

Four Things You Should Know About Veterinary Pharmacy continues on the next page...

OPINION- Interests and Perspectives

Four Things You Should Know About Veterinary Pharmacy continues from the last page...

So whether your patient has two legs or four, keep in mind that we always have an obligation to do no harm to our patients. It's important as pharmacy students and future pharmacists to educate their owners, as well as ourselves, about how to best optimize our fuzzy friends' care.

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Musings about Canada's Health System- **Is it Good Enough?**

Dong Young Lee, 2T0

Canadians are fairly satisfied with our health system. Or at least we do not complain as much as Americans do. Indeed, in U.S. hardly a day goes by without hearing about major healthcare problems such accessibility and affordability. Even though Canadians don't suffer as much due to denied access to medical services or prohibitive medical costs, our healthcare system is not without its flaws.

One of such flaws is a long wait time, which can be considered a small price to pay for the free necessary medical services. For most generally healthy people, the long wait time is just a nuisance. However, some people have conditions that tend to deteriorate with time. In the worst case of scenario, some might face unfortunate events such as disability and death because they could not receive the necessary medical help in time. Another flaw may be a lack of motivation for healthcare providers to stay competitive. Since the provincial/territorial governments pay healthcare professionals, they are not so much motivated to work beyond their job descriptions to get those coveted promotions or seek better opportunities elsewhere. Staying in a comfort zone never engenders innovation and breakthroughs in medicine or health sciences. This is probably why we don't often see the headlines about innovative surgeries performed or new medical techniques invented in Canada. Lastly, the pay gap between Canada and U.S. sometimes causes brain drain. Many healthcare talents are attracted to bigger paychecks offered by employers in the U.S. where the private health system may allow relatively more negotiating power to healthcare professionals on merit basis. At the end of the day, all these flaws in the Canada health system impact us.

The bottom line is the Canadian health system needs to be more efficient because spending more tax money on the healthcare budget does not necessarily correct these flaws. We need collective knowledge to fight the problems as big as those of the Canadian health system. In order to do that, Canadians need to speak up generating discussion and providing ideas in the first place. No single person can change the health system that should benefit all of us.

OPINION- Interests and Perspectives

Back to School Paper Book Wrap Tutorial

Angela Wang, 1T8

Textbooks are expensive, but I'm generally pretty cheap. This year as a gift to you all, I'm going to show you how to protect your literary investments for next to nothing. You're welcome.

MATERIALS

1. Paper

You'll want to use something that's durable. Standard weight paper for printers and copiers will work, but my medium of choice are deconstructed paper shopping bags. They are great because they can take a lot of abuse, and give you the large surface area that you need. You can also turn them inside out and customize the blank side any way you wish. Other materials to consider include construction paper, manila envelopes, magazine covers, and leftover wallpaper. If you want to go all out, take apart one of those giant bags that they use for yard waste.

2. Scissors
3. Ruler

OPTIONAL MATERIALS

4. X-Acto knife & Cutting Board

Use instead of scissors for faster cuts and straighter lines.

5. Tape

To reinforce and extend the life of your book jacket

6. Stickers, labels, paint, markers, etc

Personalize your book, show off your artistic talents, make sure everyone in your MTM group knows exactly whose textbook they're using... do whatever works for you and makes you happy

Follow the following six steps to wrap your textbooks in style!

STEP 1

DECONSTRUCT YOUR PAPER BAG.

Remove any cardboard bits and glue, and trim down to size.

*** To make sure that your finished book jacket stays put, a good rule of thumb is to make sure that the width of your paper is wide enough to cover the back and front covers, along with the spine, with enough overlap on both sides to cover 1/3 - 1/2 of the inner covers.

The length of the paper should be long enough to cover the length of your book, with an overlap allowance of at least 1/4 of the length of the book (or at the very least 1") on both the top and bottom sides of the inner covers. ***

Decorate Your Cover

If you want to draw cool patterns/designs, now would be the time to do it. However, if you want to label the front/spine of the book, wait until after Step Six so you have a more accurate placement.

STEP 2

MAKE SURE YOUR EDGES ARE STRAIGHT.

Corners should be 90 degrees. Trim off any excess material. Double check that the size of the page meets the overlap requirements specified in Step One. This step might not seem important now, but it will give your final product a much more polished look!

Continue to the next page to learn how to finish your book wrapping!

OPINION- Interests and Perspectives

CENTER YOUR BOOK WIDTHWISE and wrap the paper (wrong side up) over the long edge of both the front cover and the back cover.

The amount of overlap should the same between covers, and the paper should lie tight and flat against the surfaces (spine & covers) with no puffy areas when the book is closed.

With the page still wrapped along the long edges of the front and back covers, ADJUST THE POSITION OF THE BOOK VERTICALLY so that the excess material above and below the book are roughly equal in length.

Mark the wrong side of the jacket where the optimal placement is established. You will also want to note the placement of the book spine.

REMOVE THE JACKET FROM THE BOOK and fold along the long lines you made in the last step. Then unfold everything and lay the page flat.

Next, we need to make some accommodations for the spine. Make four small cuts on the jacket parallel to intended direction of the book spine. These cuts should be placed on the jacket 1-2 cm past the edge of the spine depending on the size of your book, and be perpendicular to, but not intersecting the long folds on the jacket.

You should have two small tabs centered widthwise. Fold them down.

PLACE THE BOOK ON THE PAGE SO THAT THE SPINE IS CENTERED.

Using the creases that you have already made as guides, begin by wrapping the short edges over the top and bottom of the front and back covers. Make sure that the folds are straight. Then wrap the long edges in the same way.

Aaaaaand you're done!

Basically.

You can add the title, authors, your name, etc... or just leave things blank for a little more mystery.
You can also reinforce your jacket if you wish using tape along the areas that experience the most wear. You can try using colourful tape along the edges or around the corners. For a less conspicuous look, tape along the creases on the wrong side of the jacket and over the folded tabs we made in Step 5.

That's it. Now go out with your new books and study your little heart out, you.

STUDY BREAK- Dear Druggist and Artist's Corner

Dear Druggist

The 'Dear Druggist' Column is new to the Monograph this year. We decided to have a column where pharmacy students could ask questions to a practicing pharmacist about any topic to which they could receive a reply! The pharmacist has agreed to take questions about anything- pharmacy, life, relationships and beyond!

Ida-Maisie Famiyeh, B.Sc. Pharm., is a recent graduate of the pharmacy program (1T4), and finished her hospital residency in 2015. She is currently completing her Master's degree in Pharmaceutical Sciences while practicing pharmacy in a clinical setting. Ida is not only a pharmacist, but also an entrepreneur. She has founded a non-profit organization called I Too Can, which centres around connecting individuals with personalized mentors so that they may realize and actualize their dreams.
Submit your questions for Ida here: https://goo.gl/forms/QPkhdIlAp2N8B-gPq2 or scan the QR code for the link!

Anon: "Dear Druggist,

In your opinion, what skills and attributes makes a good student volunteer or employee? What would make one student stand out from another?"

Ida: Great question, Anon! What makes a good student volunteer or employee is dependent on whom you are interested in working with and where. You first need to understand the company/employer that you want to work for. What is/are their value(s)? What is the environment like? By doing your research about the organization, you will be able to determine whether you will be a right fit for them and whether they will be a right fit for you.

Some of the things that will help you determine if you are the right fit for the organization is your relevant experiences. For example, if you want to work for Shoppers Drug Mart, having had prior experience volunteering or working at Shoppers would be an asset. It helps the employer trust your competency and what you could potentially bring to the table. Another thing that would make you stand out is your level of skills. This ties in with the experience piece. If you have participated in extracurricular activities, think about the skills you have obtained through those activities. Are any of those skills relevant to the position you are applying to? If so, it would be worth mentioning. Also showing that you are a reflective individual who acknowledges both successes and setbacks is valuable. I hope this helps and if there is anything specific you would like me to touch on further, please let me know!

Best, Ida"

Artists' Corner

Potatoes - a dream
There my favourite boy leans, deeply absorbed in the process of cutting potatoes.
He is tensed up. He scrutinizes every strictly cubic piece of potato. He has his pride and passion for what he is trying to perfect.
O the intense concentration I sense from him who is in his own world - despite the narrow & poorly lit kitchen being wet, broken, and dirty.
Keen.

-Cathy Xu, 1T9

STUDY BREAK- Shout-Outs

Birthday Bonanza

MUCH LOVE AND APPRECIATION for my partner in crime and birthday girl, Nat <3

HAPPY BIRTHDAY Anne! Get turnt up tonight!!
-Brian Tang

Phrosh Phriends

SPECIAL SHOUT-OUT TO PPC CHAIR, Steven Shao! Thank you for all of the hard work you put in from day 1 until now to make sure that PPC stayed on track with all of the planning and the 2T0s had a memorable experience!

"TO THE PHROSH LEADERS OF GROUP 10 for creating a friendly and comfortable environment for the 2T0 Toronto Islanders!"

SHOUT-OUT TO JASON (Group 3 - we'll get there) on bringing granola bars to Tree Trekking day!

SHOUT-OUT TO GROUP 2 PhARRRmacy for being the best phroshies #Pirates4Lyfe.
-Ash

PANDAPANDAPANDA!!! This is a shout-out for Dan, Simon, Vargha, Ashley, Jessie, and Nisha for being the MOST AMAZING 2T0 phrosh leaders ever. Because of you guys, our time at phrosh was SUPER fun, worthwhile, and UNforgettable!! Keep up the awesomeness, and see you guys around!!

SHOUT-OUT TO GROUP 1 LEADERS for making Phrosh an unforgettable experience! Thank you for listening to our opinions, for never leaving us behind and for being our pseudo parents over the past few days. Y'all are the best <3 SHARKS! >>>>
-Group 1 Sharks AKA Nightmares

Other

SHOUT-OUT TO JAMES YAN for getting juiced over this summer

S/O TO ABASIOFON for her on-point fashion style, her #flawless brows, but most importantly, for her kind heart. Makin her mamma proud since '92.

S/O TO MY PRECEPTOR Christos! Working with him taught me a lot about the profession of pharmacy and I'm excited to start practicing!

SHOUT OUT TO BIG ED, MEDIUM KEN, LITTLE HEN AND TINY JON. They complete the soda sizes :)

HANAE M, thanks for putting up with me, even throughout the summer. You're the best <3

SHOUT-OUT TO RAHUL for leaving a lasting impression at both community pharmacies he's been at. These preceptors can't stop talking about him!

SHOUT-OUT TO the humans of TP! #faves #ODB
-Abas Ibekwe

THANK YOU for your kind guidance Emily Hu!

TO TANNER, my favourite and smelliest friend:
I hope you have the best birthday month ever and that you eat lots of cake!
Love you! Xo

A RATHER LATE SHOUT-OUT TO Ran, best partner in all things pharmacy. Hope you are pumped for another year!

eighteen **Shout-Outs**

STUDY BREAK

Sudoku Time! Zarah Khan, 1T9

Staff Writer Zarah Khan has provided the Monograph with a Sudoku!

We want YOU to complete the Sudoku and submit this page to the Monograph stand for your chance to win one of two $5 Second Cup gift cards to help fuel you through midterms.

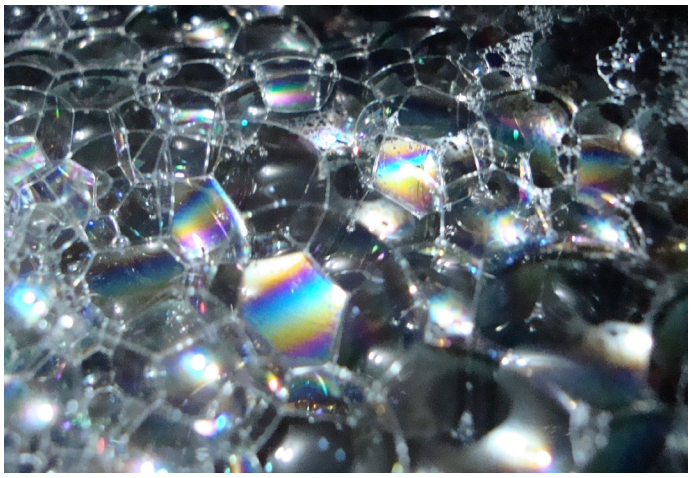
Name: _____

Circle one- Year : 1T7 1T8 1T9 2T0 Staff

Email: _____

						7		
		3		8	5			
	9			1		8		5
			9				4	
	6	2				5	9	
	3				8			
8		4		5			1	
			1	7		6		
		9						

STUDY BREAK- Behind the Lens



#homemade-rainbows ;)
-Crystal Ng, 1T8

#killbearpark
-Arpit Shah, 1T8

#summeradventures
-Tammy Nguyen, 2T0

#downtownmontreal
-Arpit Shah, 1T8

#summeradventures
-Tammy Nguyen, 2T0

#summeradventures
-Tammy Nguyen, 2T0

STUDY BREAK- Behind the Lens

#LOSTINLDN
-Hanae Mohamed, 1T8

#LOSTINLDN
-Hanae Mohamed, 1T8

#LOSTINLDN
-Hanae Mohamed, 1T8

#LOSTINLDN
-Hanae Mohamed, 1T8