2009 | Message from the Co-Chairs

On behalf of the conference organizing committee, it is with great pleasure that we welcome you to Ottawa for the 2009 National Oncology Pharmacy Symposium (NOPS): *Oncology Safety – Not an Oxymoron*.

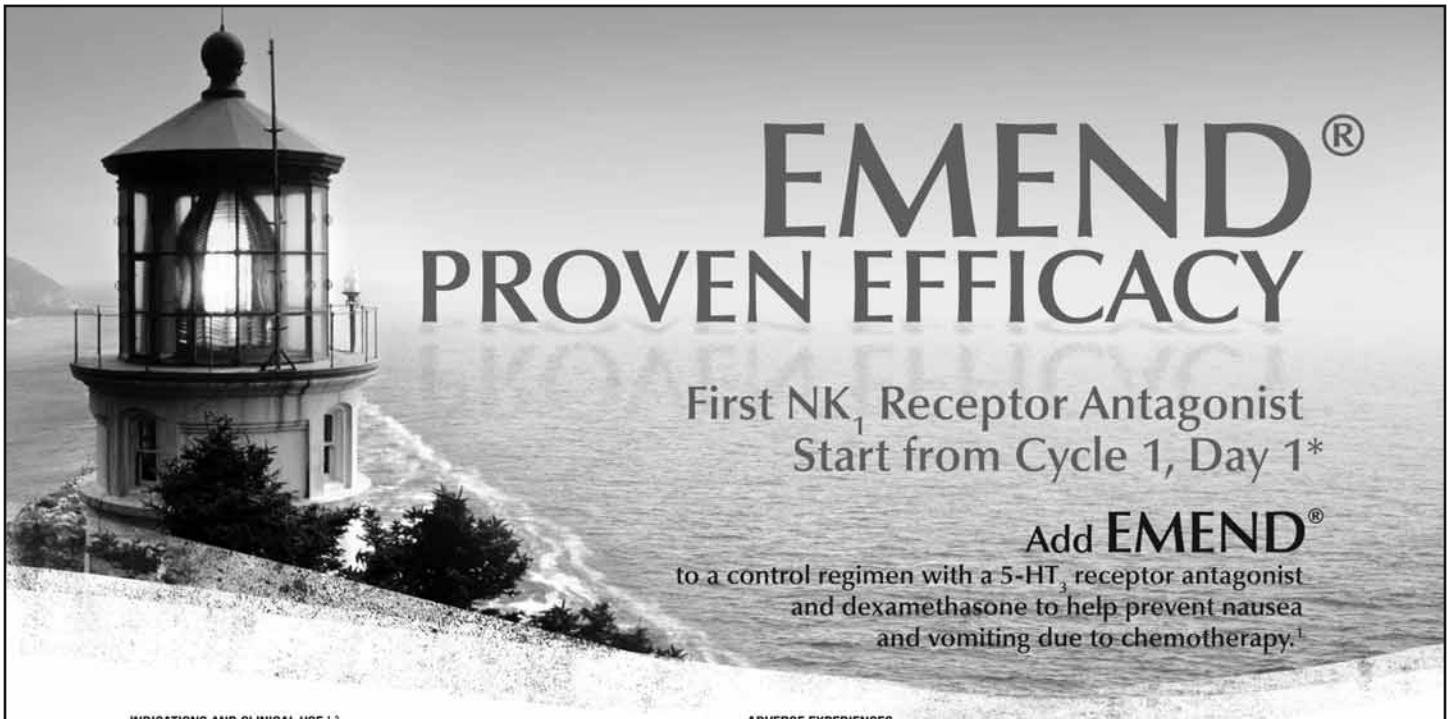
The practice of oncology pharmacy has evolved considerably during the last three decades, both clinically and technically. The introduction of the Biological Safety Cabinets in the 80's marked a significant step in the safe handling and preparation of cytotoxic products. More recently, closed systems have offered an additional layer of protection for personnel involved in the preparation, administration, or disposal of cytotoxic drugs. The availability of cytotoxics and targeted therapy in the oral formulation represents a definitive value in terms of patient convenience, but it also comes with new challenges for the oncology pharmacists. Drug interactions in oncology pharmacy have become a reality of every day. The importance of medication reconciliation, to obtain the best possible medication history at any given points during the journey of the oncology patients, is now emerging. Technician regulation is another step that will enable us to enhance safety in oncology. These different aspects of oncology safety, with many other therapeutic topics, will be presented during the next days.

NOPS would not be possible without the generous support of our pharmaceutical sponsors and the dedication of the organizing committee. Oncology pharmacists and pharmacy technicians from across the country have volunteered their time to bring to you a conference program that we hope, you will find interesting, useful and applicable to your own oncology practice. The members of the Ottawa social committee have reserved some surprises for entertainment during the Saturday social event. Do not miss this opportunity to network and socialize with colleagues from across the country and to experience the local flavour of Ottawa and its diverse culture.

Cheers,

Hélène Bourget-Letarte **Lee Gordon** **Pat Trozzo**

NOPS 2009 Co-Chairs



EMEND®
PROVEN EFFICACY

First NK_1 Receptor Antagonist
Start from Cycle 1, Day 1*

Add EMEND®
to a control regimen with a 5-HT_3 receptor antagonist and dexamethasone to help prevent nausea and vomiting due to chemotherapy.[1]

INDICATIONS AND CLINICAL USE [1,2]

EMEND® (aprepitant) and EMEND® IV (fosaprepitant dimeglumine), a neurokinin 1 (NK_1) receptor antagonist, in combination with a 5-HT_3 antagonist class of antiemetics and dexamethasone, are indicated for the:

1. prevention of acute and delayed nausea and vomiting due to highly emetogenic cancer chemotherapy
2. prevention of nausea and vomiting in women due to treatment with moderately emetogenic cancer chemotherapy consisting of cyclophosphamide and anthracycline

Approval of EMEND® IV is based on the bioequivalence study indicating that the 115 mg of the prodrug, fosaprepitant is equivalent to 125 mg oral aprepitant in regard to aprepitant exposure. No clinical trials that involved the use of fosaprepitant and both dexamethasone and a 5-HT_3 antagonist class of antiemetics have been submitted.

SELECTED IMPORTANT SAFETY INFORMATION

EMEND® IV is contraindicated in the patients who are hypersensitive to EMEND® IV, aprepitant, polysorbate 80, or to any ingredient in the formulation. EMEND® is contraindicated in patients who are hypersensitive to aprepitant or to any ingredient in the formulation. For complete listings, see the DOSAGE FORMS, COMPOSITION AND PACKAGING sections of the product monographs.

EMEND® and EMEND® IV should not be used concurrently with pimozide, terfenadine, astemizole, or cisapride. Inhibition of cytochrome P450 isoenzyme 3A4 (CYP3A4) by aprepitant could result in elevated plasma concentrations of these drugs, potentially causing serious or life-threatening reactions. Chemotherapy agents that are known to be metabolized by CYP3A4 include docetaxel, paclitaxel, etoposide, irinotecan, ifosfamide, imatinib, vinorelbine, vinblastine and vincristine.

Serious Drug Interactions

- Fosaprepitant is rapidly converted to aprepitant, which is a moderate inhibitor of CYP3A4 when administered as a 3-day antiemetic dosing regimen for CINV. Fosaprepitant or aprepitant should be used with caution in patients receiving concomitant medicinal products that are primarily metabolized through CYP3A4 and CYP2C9, including chemotherapy agents. Inhibition of CYP3A4 by aprepitant could result in elevated plasma concentrations of these concomitant medicinal products. Induction of CYP2C9 by aprepitant could result in decreased plasma concentrations of these concomitant medicinal products
  (see CONTRAINDICATIONS and DRUG INTERACTIONS in the product monograph).
- The effect of oral aprepitant on the pharmacokinetics of orally administered CYP3A4 substrates is greater than the effect of oral aprepitant on the pharmacokinetics of intravenously administered CYP3A4 substrates.
- Coadministration of aprepitant with warfarin results in decreased prothrombin time, reported as International Normalized Ratio (INR). In patients on chronic warfarin therapy, the prothrombin time (INR) should be closely monitored in the 2-week period, particularly at 7 to 10 days, following initiation of the 3-day regimen of fosaprepitant followed by oral aprepitant with each chemotherapy cycle (see DRUG INTERACTIONS in the product monograph).
- The efficacy of hormonal contraceptives during and for 28 days after administration of fosaprepitant or aprepitant may be reduced. Alternative or back-up methods of contraception should be used during treatment with fosaprepitant or aprepitant and for 1 month following the last dose (see DRUG INTERACTIONS in the product monographs).

Drug interaction following administration of fosaprepitant are likely to occur with drugs that interact with oral aprepitant.

ADVERSE EXPERIENCES

Since EMEND® IV is converted to aprepitant, those adverse reactions associated with EMEND® are to be expected to occur with EMEND® IV. Following the infusion of fosaprepitant 115 mg, a higher aprepitant C_{max} (approx. 2-fold) was observed compared to oral aprepitant (125 mg). A theoretical risk for increased adverse experiences due to higher peak aprepitant exposure cannot be ruled out. The following drug-related clinical adverse experiences were reported in subjects dosed with EMEND® IV in a randomized, open-label crossover bioequivalence study (n=66): infusion site pain, 5 (7.6%); infusion site induration, 1 (1.5%); headache, 2 (3%).

The overall safety of aprepitant was evaluated in approximately 3800 individuals. The most common adverse experiences, regardless of causality, occurring in patients receiving highly emetogenic chemotherapy who were treated with oral aprepitant in clinical studies (cycle 1) were: asthenia/fatigue (17.8%), nausea (12.7%), hiccups (10.8%), diarrhea (10.3%), constipation (10.3%), anorexia (10.1%). The most common adverse experiences, regardless of causality, occurring in patients receiving moderately emetogenic chemotherapy who were treated with aprepitant in clinical studies (cycle 1) were: alopecia (24.0%), fatigue (21.9%), headache (16.4%), constipation (12.3%), neutropenia (8.9%).

* The 3-day CINV regimen includes EMEND® (125 mg orally) 1 hour prior to chemotherapy on Day 1 and EMEND® (80 mg orally) on Days 2 and 3; in addition to dexamethasone and a 5-HT_3 antagonist. Please consult the product monograph for complete dosage and administration instructions.

CINV = Chemotherapy-induced nausea and vomiting

References:

1. Data on file, Merck Frosst Canada Ltd.: EMEND® — Product Monograph, 2008.
2. Data on file, Merck Frosst Canada Ltd.: EMEND® IV — Product Monograph, 2009.

BEFORE PRESCRIBING, PLEASE CONSULT THE PRESCRIBING INFORMATION.

Now available EMEND® IV

EMEND® IV (115 mg) may be substituted for EMEND® (125 mg) prior to chemotherapy, on day 1 only of the CINV regimen as an infusion administered over 15 minutes.[1] Please consult the product monograph for complete dosage and administration instructions.

1. Data on file, Merck Frosst Canada Ltd.: EMEND® IV — Product Monograph, 2009.

Please visit our website at: www.merckfrosst.com.

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Discovering today for a better tomorrow.

Merck Frosst Canada Ltd., Kirkland, Quebec

PAAB

EMEND® (aprepitant)

EMEND® IV (fosaprepitant dimeglumine)

EMD-09-CDN-34461042-JA

2009 | Message des coprésidents

Au nom du comité organisateur du Symposium national sur la pharmaco-oncologie (SNPO), nous vous souhaitons la bienvenue à Ottawa à l'occasion du SNPO 2009, qui a pour thème *Quand oncologie et sécurité vont de pair*.

La pratique de la pharmaco-oncologie a grandement évolué au cours des trois dernières décennies, tant sur le plan clinique que technique. L'établissement des enceintes de sécurité biologiques dans les années 1980 a marqué une étape importante dans la manipulation et la préparation sécuritaire des produits cytotoxiques. Plus récemment, les systèmes clos ont ajouté une nouvelle couche de protection pour les membres du personnel participant à la préparation, à l'administration et à l'élimination des agents cytotoxiques. La disponibilité de ces agents dans une formulation orale et de la thérapie ciblée constitue un avantage certain en matière de commodité des patients, mais elle ne vient pas sans nouveaux défis pour les pharmaciens en oncologie. En effet, les interactions médicamenteuses en pharmaco-oncologie sont devenues une réalité quotidienne. L'importance de la réconciliation des médicaments afin d'obtenir les meilleurs antécédents pharmaceutiques possibles pendant tout le périple des patients en oncologie se fait maintenant jour. La réglementation des techniciens constitue une autre étape qui nous permettra d'améliorer la sécurité en oncologie. Les différents aspects de la sécurité en oncologie, ainsi que d'autres thèmes thérapeutiques, seront présentés au cours des prochains jours.

Le SNPO ne pourrait avoir lieu sans l'appui généreux de nos commanditaires pharmaceutiques et le dévouement des membres du comité organisateur. Des pharmaciens en oncologie et des techniciens en pharmacie des quatre coins du pays ont offert leur temps pour vous offrir un programme intéressant et utile que vous pourrez appliquer dans votre propre pratique oncologique. Par ailleurs, les membres du comité social d'Ottawa vous réservent des surprises à l'occasion de l'activité sociale du samedi. Profitez de cette occasion pour faire du réseautage et échanger avec des collègues de tout le pays, et faites l'expérience de la saveur locale d'Ottawa et de sa culture diversifiée.

Bon symposium!

Hélène Bourget-Letarte **Lee Gordon** **Pat Trozzo**

Coprésidents du SNPO 2009

2009 | CAPhO Welcome message

On behalf of the Executive committee of the Canadian Association of Pharmacy in Oncology, I would like to welcome you to Ottawa for NOPS 2009.

The NOPS Organizing Committee has once again succeeded in planning an outstanding event. I would like to thank them for all their hard work over the past year. We are also pleased to welcome several of our industry partners, who are sponsoring the NOPS and many very interesting Satellite symposiums. Please take this opportunity to meet fellow CAPhO members and network with your colleagues from around the country.

Many of the CAPhO executive members are present for the conference and will be pleased to discuss the upcoming CAPhO initiatives. I would encourage everyone to participate in the Annual General Meeting to be held on Saturday.

On behalf of the CAPhO Executive, we hope that you enjoy this educational event and we are looking forward to seeing you there!

Dana Cole
CAPhO President

Thank you to our CAPhO Executive: **Carlo DeAngelis** | **Gabriel Gazzé** | **Marc Geirnaert** | **Kathy Gesy** | **Colleen Olson** **Rhonda Kalyn** | **Tim VanHelvert** | **Ing Collins** | **Betty Riddell** | **Biljana Spirovski** | **Helene Bourget-Letarte**

2009 | Message de bienvenue de l'ACPhO

Au nom du comité directeur de l'Association canadienne de pharmacie en oncologie (ACPhO), j'aimerais vous souhaiter la bienvenue à Ottawa à l'occasion du Symposium national sur la pharmaco-oncologie 2009.

Cette année encore, le comité organisateur du symposium a su organiser un événement exceptionnel. J'aimerais remercier les membres du comité pour leur travail soutenu au cours de la dernière année. Nous sommes également heureux d'accueillir plusieurs partenaires du secteur, qui commanditent le symposium, et de présenter bon nombre de symposiums satellites tout aussi intéressants les uns que les autres. Veuillez profiter de cette occasion pour rencontrer les membres de l'ACPhO et échanger avec vos collègues des quatre coins du pays.

De nombreux membres de la haute direction de l'ACPhO seront présents au symposium et seront heureux de discuter des prochaines initiatives de l'association. Je vous encourage aussi toutes et tous à assister à l'assemblée générale annuelle, qui aura lieu le samedi.

Au nom de la direction de l'ACPhO, j'espère que cet événement éducatif saura vous plaire. Nous avons hâte de vous rencontrer!

Dana Cole
Présidente de l'ACPhO

Merci au Comité Exécutif de CAPhO: **Carlo DeAngelis** | **Gabriel Gazzé** | **Marc Geirnaert** | **Kathy Gesy** | **Colleen Olson** **Rhonda Kalyn** | **Tim VanHelvert** | **Ing Collins** | **Betty Riddell** | **Biljana Spirovski** | **Hélène Bourget-Letarte**

Every door opened could be a discovery made.

Lilly Oncology is a proud sponsor of National Oncology Pharmacy Symposium 2009

Lilly Oncology

No two cancer patients are alike. That's why Lilly Oncology is committed to developing treatment approaches as individual as the people who need them. We've made many contributions toward improved patient outcomes and—with each door we open—we take another step forward. But helping today's cancer patient isn't enough. Even with over 40 drug targets in development, our quest to help you provide tailored therapy is just beginning.

Making science personal.

Lilly

Answers That Matter.

Ottawa
Larry O'Brien
Mayor / Maire

On behalf of Members of Ottawa City Council, representing 898,000 residents, it gives me great pleasure to extend a very warm welcome to all the delegates participating in the ***National Oncology Pharmacy Symposium (NOPS) 2009***, taking place at the Fairmont Château Laurier in the heart of our nation's capital from ***October 23rd to 25th 2009***.

As Head of Council, I want to lend my support to the collaborative efforts of the Canadian Association of Pharmacy in Oncology (CAPhO) to provide a forum for pharmacists, pharmacy technicians and other delegates to network, exchange ideas, attend workshops, and learn more about pharmacy in oncology relative to providing care to oncology patients.

Allow me to congratulate the CAPhO as well as the sponsors, keynote speakers, volunteers and all those who have dedicated their time, energy, talents and resources to the successful organization of this informative event bringing together some 200 pharmacists, pharmacy technicians and other delegates from across the country.

As Mayor of the host city, I invite visitors to explore the numerous municipal sites of historic significance as well as the abundance of national treasures and heritage landmarks housed in Canada's capital.

Please accept my best wishes for a very productive and rewarding assembly.

Larry O'Brien
Mayor

Au nom des membres du Conseil municipal d'Ottawa, représentant 898 000 résidents, je suis heureux de souhaiter la bienvenue à tous les délégués prenant part au ***Symposium national des pharmaciens en oncologie (NOPS) 2009*** qui se tiendra au cœur de la capitale du Canada, plus précisément à l'hôtel le Fairmont Château Laurier, du ***23 au 25 octobre 2009***.

À titre de président du Conseil, j'aimerais apporter mon soutien aux efforts de collaboration qu'ont déployés les membres de l'Association Canadienne de Pharmacie en Oncologie (ACPhO) afin d'offrir une tribune aux pharmaciens, aux techniciens en pharmacie et à d'autres délégués. Cette rencontre leur permettra de réseauter, d'échanger des idées, d'assister à des ateliers et d'en apprendre davantage sur la pharmacie oncologique relativement aux soins médicaux offerts aux patients.

Permettez-moi de féliciter les représentants de l'ACPhO, de même que les commanditaires, les conférenciers principaux, les bénévoles et tous ceux qui ont investi leur temps, leur énergie, leurs talents et leurs ressources pour assurer la réussite de cet événement d'information qui rassemble quelque 200 pharmaciens, techniciens en pharmacie et d'autres délégués provenant de plusieurs régions du pays.

En ma qualité de maire de la ville hôte, j'invite les visiteurs à découvrir les nombreux lieux municipaux d'importance historique ainsi que les trésors nationaux et les points d'intérêt patrimoniaux abondants qu'abrite la capitale du Canada.

Je vous souhaite une rencontre des plus fructueuses et enrichissantes.

Le maire d'Ottawa,

Larry O'Brien

110 Laurier Avenue West, Ottawa, ON K1P 1J1/110, avenue Laurier Ouest, Ottawa ON K1P 1J1
Tel/tél. : 613-580-2496 Fax/téléc. : 613-580-2509
e-mail/courriel : Larry.OBrien@ottawa.ca
Web : ottawa.ca

Satellite Symposium held in conjunction with NOPS

Current Issues in the Management of Colorectal Cancer

Fairmont Château Laurier, Ottawa, ON
Meeting Room: Adam Room
Friday, October 23, 2009

CHAIR, FLAY CHARBONNEAU

Agenda

6:45 pm **The Future of Colorectal Cancer Therapy: Biologics and Biomarkers**
Jacob Easaw MD, PhD, FRCP(C)
Clinical Assistant Professor
Medical Oncology
Head, NeuroOncology
GI Oncology
Tom Baker Cancer Center

Objective: To examine the role of current and future biomarkers in guiding treatment decisions.

7:45 **Hypersensitivity Reactions: Recognition and Management**
Sean Hopkins, B.S.P., B.SC.(HON)
Clinical Pharmacy Specialist, Breast Cancer
The Ottawa Hospital Cancer Centre
Ottawa, ON

Objective: To examine methods of detection and management of patients with hypersensitivity reactions to platinum agents.

8:45 **Adjournment**

Dinner and Dessert will be provided in cooperation between sanofi-aventis Canada and Eli Lilly Canada, Inc.

sanofi aventis
Because health matters

2009 | Thank you to our CAPhO Executive
Merci au Comité Exécutif de CAPhO

Dana Cole, *President*

Carlo DeAngelis, *President-Elect*

Gabriel Gazze, *Past President*

Marc Geirnaert, *Treasurer*

Kathy Gesy, *Secretary*

Colleen Olson, *Awards Chair*

Rhonda Kalyn, *Education Chair*

Tim VanHelvert, *Communications Officer*

Ing Collins, *NCIC Representative*

Betty Riddell, *Membership Committee Chair*

Biljana Spirovski, *Member-at-Large*

Hélène Bourget-Letarte, *NOPS Chair 2009*

2009 | Thank you to the NOPS Planning Committee Members
Merci aux membres du comité de planification du SNPO

Darryl Boehm
Allan Blair Cancer Centre, Regina, SK

Hélène Bourget-Letarte
The Ottawa Hospital Cancer Centre, Ottawa, ON

Flay Charbonneau
Odette Cancer Centre, Toronto, ON

Ing Collins
Juravinski Cancer Centre, Hamilton, ON

Carlo DeAngelis
Odette Cancer Centre, Sunnybrook Health Sciences Centre, Toronto, ON

Scott Edwards
Dr. H. Bliss Murphy Cancer Centre, St.John's, NL

H. Lee Gordon
Lethbridge Cancer Center, Lethbridge, AB

Rhonda Kalyn
BC Cancer Agency – Centre for the Southern Interior, Kelowna, BC

Maria Lalonde
The Ottawa Hospital Cancer Centre, Ottawa, ON

Sandy Linseman
Grand River Regional Cancer Centre, Kitchener, ON

Sylvia McCrudden
Cross Cancer Institute Pharmacy, Edmonton, AB

David Phillips
CancerCare Manitoba, Winnipeg, MB

Coleen Schroeder
McGill University Health Center, Montreal, QC

Diane E. Strong
New Brunswick Cancer Network, Fredericton, NB

Pat Trozzo
CancerCare Manitoba and University of Manitoba, Winnipeg, MB

Thanh Vu
Health Canada, Burnaby, BC

WE'RE ADVANCING ONCOLOGY TO MEET CANCER HEAD ON

Pfizer Oncology is devoted to enriching lives through research. Our mission is to bring discovery to life for every person touched by cancer.

Pfizer is targeting cancer in different ways:

- **Angiogenesis:** how blood vessels grow to feed cancerous tumours.
- **Immunology:** how the body's immune system plays a role in cancer.
- **Signal Transduction:** how abnormal signals potentiate cancer.
- **Repair and Replication:** exploiting the defects in cancer cells.

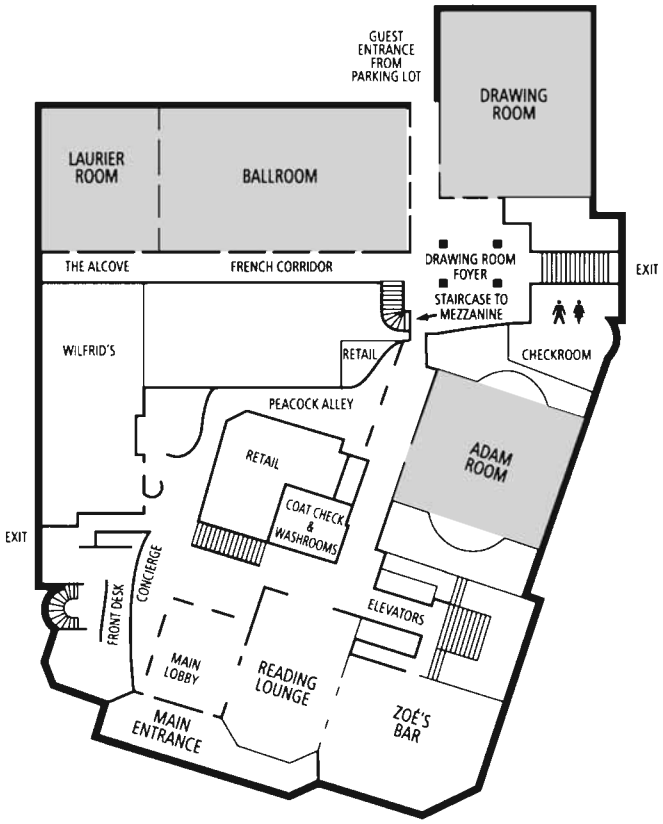
Our goal is to improve the life of every person affected by cancer.

Pfizer Oncology

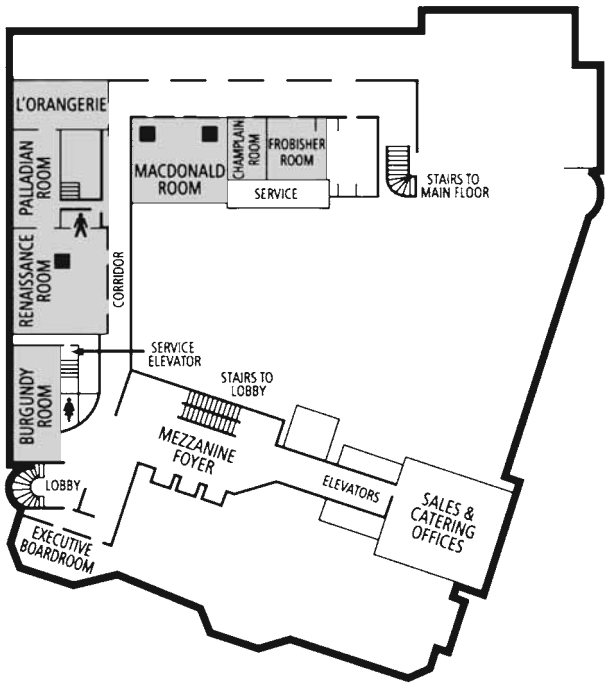
FROM LABORATORY TO LIVING

Fairmont
CHÂTEAU LAURIER

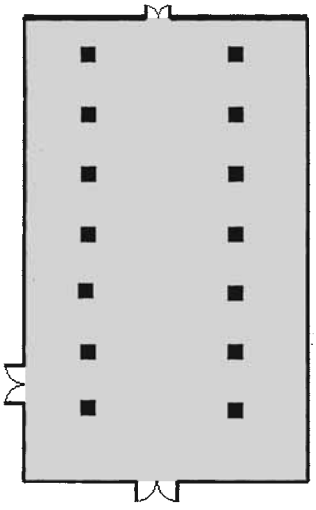
Ground Floor



Mezzanine



Canadian Room
on Lower Level



An investment in research is an investment in hope.

Roche is a leader in the research and development of pharmaceutical and diagnostic solutions that look beyond today's horizons and make a profound difference in people's lives.

Working in partnership with healthcare practitioners from across the country, we have opened the door to countless new possibilities in the discovery, treatment and management of acute and long-term disease.

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2009 | Saturday Afternoon and Evening Events

This year's Saturday Afternoon and Evening Events will once again provide great opportunities to network with old and new friends while enjoying beautiful Ottawa.

Before leaving for dinner to the Canadian Museum of Civilization we look forward to welcoming you to the Wine and Cheese Poster and Exhibit Viewing Reception in the Ballroom, Ground Floor of the Fairmont Chateau Laurier from 4:35pm – 6:30pm. Two drink tickets will be provided upon arrival at the Reception.

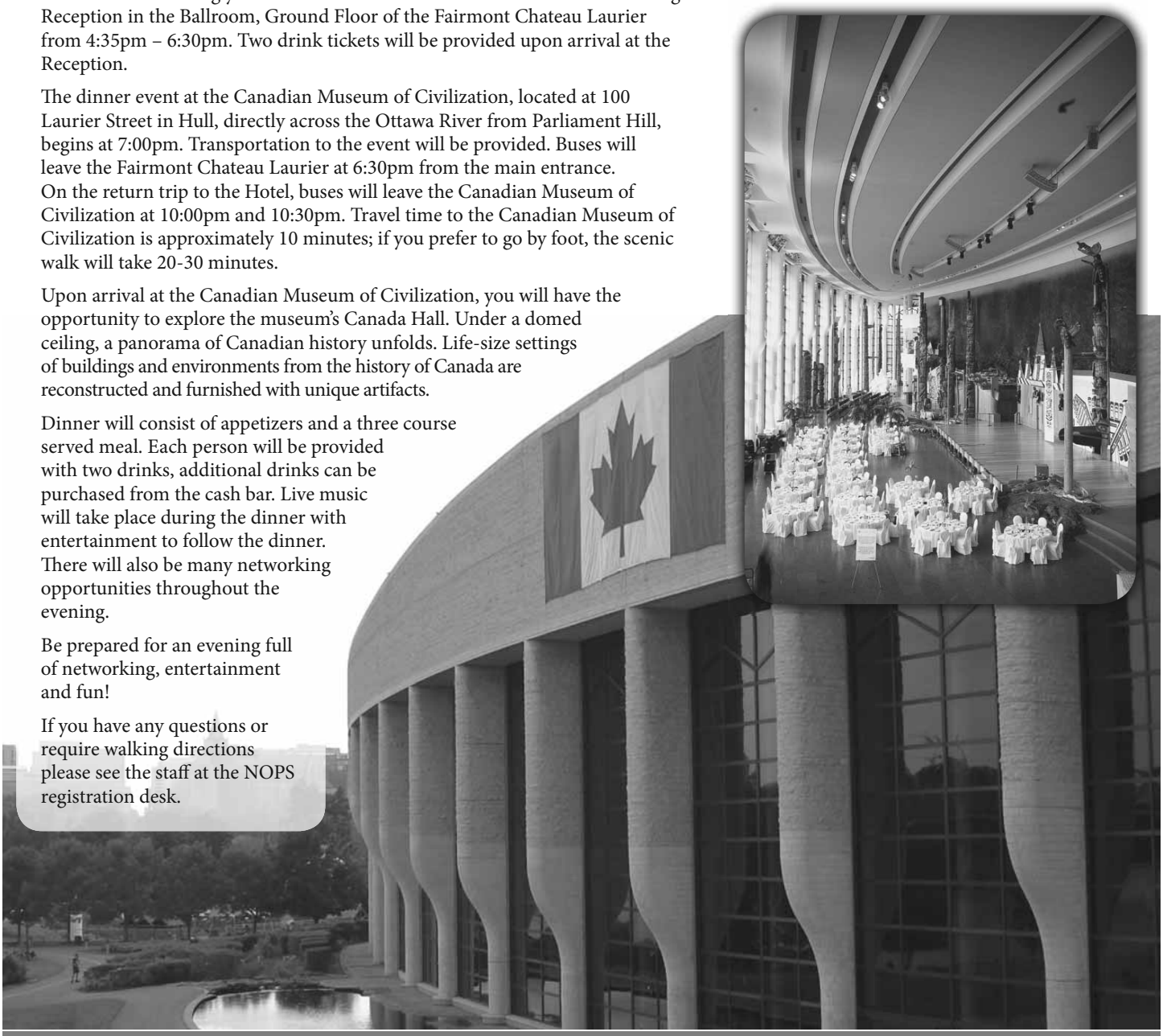
The dinner event at the Canadian Museum of Civilization, located at 100 Laurier Street in Hull, directly across the Ottawa River from Parliament Hill, begins at 7:00pm. Transportation to the event will be provided. Buses will leave the Fairmont Chateau Laurier at 6:30pm from the main entrance. On the return trip to the Hotel, buses will leave the Canadian Museum of Civilization at 10:00pm and 10:30pm. Travel time to the Canadian Museum of Civilization is approximately 10 minutes; if you prefer to go by foot, the scenic walk will take 20-30 minutes.

Upon arrival at the Canadian Museum of Civilization, you will have the opportunity to explore the museum's Canada Hall. Under a domed ceiling, a panorama of Canadian history unfolds. Life-size settings of buildings and environments from the history of Canada are reconstructed and furnished with unique artifacts.

Dinner will consist of appetizers and a three course served meal. Each person will be provided with two drinks, additional drinks can be purchased from the cash bar. Live music will take place during the dinner with entertainment to follow the dinner. There will also be many networking opportunities throughout the evening.

Be prepared for an evening full of networking, entertainment and fun!

If you have any questions or require walking directions please see the staff at the NOPS registration desk.



Celgene Corporation is a global, integrated, biopharmaceutical company primarily engaged in the discovery, development and commercialization of innovative therapies designed to treat cancer and immune-inflammatory related diseases.

Celgene Corporation *est une société biopharmaceutique globale intégrée qui s'engage à découvrir, développer et mettre en marché des thérapies innovatrices pour traiter le cancer et des conditions inflammatoires du système immunitaire.*

Deletion 5q MDS	***SMD à délétion 5q***		**Multiple Myeloma**	***Myélome multiple***
Alberta, British Columbia, Ontario, Quebec, Saskatchewan	*Alberta, Colombie-Britannique, Ontario, Québec, Saskatchewan*		British Columbia, Ontario, Saskatchewan	*Colombie-Britannique, Ontario, Saskatchewan*

NOW REIMBURSED — Revlimid (lenalidomide) capsules — MAINTENANT REMBOURSÉ

Life-Enhancing Therapies to Market

Global leader in therapeutic solutions for cancer patients:

Mise en marché de thérapies pour améliorer la qualité de vie

Chef de file mondial dans les solutions thérapeutiques contre le cancer :

*THALOMID (thalidomide) Capsules

Revlimid (lenalidomide) capsules

*Vidaza azacitidine for injection

2009 | Program-at-a-Glance

FRIDAY, OCTOBER 23

07:30 – 09:30
SATELLITE SYMPOSIUM: *Pfizer*
(Adam Room, Ground Floor)
OPTIMIZING TREATMENT OF THE CANCER PATIENT
Part 1: Cancer Associated Thrombosis Treatment and Prevention Protocol Development: The Key to Successful Knowledge Translation and Clinical Practice Implementation
Part 2: Adverse Event Management with Targeted Therapies in Oncology

09:45 – 11:45
SATELLITE SYMPOSIUM: *Merck Frosst*
(Canadian Room, Lower Level)
SPANNING THE CONTINUUM OF CANCER CARE AT MERCK ONCOLOGY: PIPELINE DEVELOPMENT, NEW TREATMENTS AND SUPPORTIVE CARE UPDATE

12:00 – 14:00
SATELLITE SYMPOSIUM: *Amgen Canada*
(Adam Room, Ground Floor)
CURRENT TOPICS IN ONCOLOGY THERAPEUTICS

14:15 – 16:15
SATELLITE SYMPOSIUM: *Carmel Pharma Canada*
(Canadian Room, Lower Level)
SAFETY AND BEYOND...RECOGNIZING THE NEED FOR A CLOSED-SYSTEM DRUG TRANSFER DEVICE, AND UNDERSTANDING THE WAYS THAT IT CAN BENEFIT YOUR WORKPLACE

16:30 – 18:30
SATELLITE SYMPOSIUM: *Eli Lilly*
(Adam Room, Ground Floor)
PART 1: MOVING TOWARD PERSONALIZED MEDICINE: LUNG CANCER THERAPY 2009
PART 2: ARE WE THERE YET? A CASE PRESENTATION

18:45 – 20:45
SATELLITE SYMPOSIUM: *Sanofi Aventis*
(Adam Room, Ground Floor)
CURRENT ISSUES IN THE MANAGEMENT OF COLORECTAL CANCER
Part 1: The Future of Colorectal Cancer Therapy: Biologics and Biomarkers
Part 2: Hypersensitivity Reactions: Recognition and Management

SATURDAY, OCTOBER 24

06:30 – 08:00
SATELLITE SYMPOSIUM: *Hoffmann – La Roche*
(Canadian Room, Lower Level)
PART 1: BEVACIZUMAB: THE HERE AND NOW AND THE WHAT'S TO COME
PART 2: PRIVATE MARKET 101: ACCESSING DRUGS IN CANADA

07:30 – 08:15
BREAKFAST
(Ballroom & Laurier Room, Ground Floor)

08:15 – 08:25
WELCOME AND INTRODUCTION
(Adam Room, Ground Floor)

08:30 – 09:25
PLENARY SESSION
GENOMICS
(Adam Room, Ground Floor)

09:30 – 10:25
PLENARY SESSION
DRUG INTERACTIONS IN ONCOLOGY PHARMACY
(Adam Room, Ground Floor)

10:30 – 10:50
BREAK *(Ballroom, Ground Floor)*

10:55 – 11:55
PLENARY SESSION
REDUCING THE HAZARDS OF HANDLING CYTOTOXIC CHEMOTHERAPY
(Adam Room, Ground Floor)

12:00 – 12:20
CAPHO PRESENTATION OF NEEDS SURVEY
(Adam Room, Ground Floor)

12:20 – 13:00
CAPHO ANNUAL GENERAL MEETING
(Adam Room, Ground Floor)

13:00 – 14:00
LUNCH
(Ballroom & Laurier Room, Ground Floor)

14:00 – 15:20
BREAKOUT#A1: TECHNICAL STREAM
PART 1: LATEX ALLERGY SAFETY IN ONCOLOGY: THE PATIENT AND YOU
PART 2: REPETITIVE STRAIN INJURIES IN TECHNICIANS
(MacDonald Room, Mezzanine)

14:00 – 15:20
BREAKOUT#A2: CLINICAL STREAM
"SHORT AND SNAPPIES" ON BRAIN TUMOURS / INTRAPERITONEAL CHEMOTHERAPY / TRIPLE NEGATIVE BREAST CANCER
(Adam Room, Ground Floor)

14:00 -15:20
BREAKOUT#A3: ADMINISTRATIVE STREAM
IMPLEMENTING TELEPHARMACY IN A COMMUNITY CANCER NETWORK – THE ALBERTA + BC EXPERIENCE
(Renaissance Room, Mezzanine)

15:20 – 15:35
BREAK *(Ballroom, Ground Floor)*

15:35 - 16:35
BREAKOUT#B1: TECHNICAL STREAM
UPDATE ON TECHNICIAN REGULATION
(MacDonald Room, Mezzanine)

15:35 – 16:35
BREAKOUT#B2: CLINICAL STREAM
CHALLENGES IN PEDIATRIC ONCOLOGY
(Adam Room, Ground Floor)

15:35 – 16:35
BREAKOUT#B3: ADMINISTRATIVE STREAM
UPDATE ON JOINT ONCOLOGY DRUG REVIEW (JODR)
(Renaissance Room, Mezzanine)

16:35 – 18:30
WINE AND CHEESE, POSTER AND EXHIBIT VIEWING RECEPTION
(Ballroom, Ground Floor)

19:00 – 22:30
DINNER & ENTERTAINMENT
(Canadian Museum of Civilization)

2009 | Program-at-a-Glance continued

SUNDAY, OCTOBER 25

07:00 – 8:30
SATELLITE SYMPOSIUM: *Celgene*
(Canadian Room, Lower Level)
NEW FRONTIERS IN THE TREATMENT OF MDS

08:00 – 08:45
BREAKFAST
(Ballroom & Laurier Room, Ground Floor)

08:45 – 09:15
ORAL SESSIONS - AWARD WINNING POSTERS
CAPHO AWARD WINNING POSTER
HONORABLE MENTION POSTER
(Adam Room, Ground Floor)

09:20 – 10:05
PLENARY SESSION
NCIC PRESENTATION – TRIALS AND TRIBULATION
(Adam Room, Ground Floor)

10:05 – 10:25
BREAK
(Ballroom, Ground Floor)

10:25 – 10:55
PLENARY SESSION
ISOPP PERSPECTIVES
(Adam Room, Ground Floor)

11:00 – 12:20
PANEL
MEDICATION RECONCILIATION IN THE ONCOLOGY SETTING INCLUDING QUESTION AND DISCUSSION PERIOD
(Adam Room, Ground Floor)

12:20 – 12:30
CLOSING REMARKS
(Adam Room, Ground Floor)

12:30 – 14:30
SATELLITE SYMPOSIUM: *Baxter*
(Canadian Room, Lower Level)
"COLLABORATING FOR CHEMO… A COAST TO COAST PERSPECTIVE"

2009 | Schedule for Friday, October 23

07:30 – 09:30
SATELLITE SYMPOSIUM: PFIZER *(Location: Adam Room, Ground Floor)*
OPTIMIZING TREATMENT OF THE CANCER PATIENT
Hélène Bourget-Letarte, Pharmacy Manager, Ottawa Hospital Cancer Centre Pharmacy, Ottawa, ON (Chair)
Part 1: Cancer Associated Thrombosis Treatment and Prevention Protocol Development: The Key to Successful Knowledge Translation and Clinical Practice Implementation
Bill Bartle, Associate Director, Anticoagulation Clinic, Thrombo-embolism, Service, Dept. of Medicine, Clinical Coordinator, Pharmacy Dept., Sunnybrook Health Sciences Center, Toronto, ON
Part 2: Adverse Event Management with Targeted Therapies in Oncology
Lucie Surprenant, Oncology Pharmacy Coordinator, St. Mary's Hospital Center, Montréal, QC

09:45 – 11:45
SATELLITE SYMPOSIUM: MERCK FROSST *(Location: Canadian Room, Lower Level)*
SPANNING THE CONTINUUM OF CANCER CARE AT MERCK ONCOLOGY:
PIPELINE DEVELOPMENT, NEW TREATMENTS AND SUPPORTIVE CARE UPDATE
Matthew Cheung, University of Toronto and Odette Cancer Centre, Sunnybrook Health Sciences Centre, Toronto, ON
Carlo De Angelis, Odette Cancer Centre, Sunnybrook Health Sciences Centre, Toronto, ON
James M. Pluda, Acting Global Director, Scientific Affairs – Oncology, US Director, Medical Affairs – Oncology, External Medical & Scientific Affairs, Merck & Co., Inc.

12:00 – 14:00
SATELLITE SYMPOSIUM: AMGEN CANADA *(Location: Adam Room, Ground Floor)*
CURRENT TOPICS IN ONCOLOGY THERAPEUTICS
Hélène Bourget-Letarte, Ottawa, ON (Chair)
Dr. Scott Berry, Toronto, ON
Dr. Mario Lacouture, Chicago, IL, USA
Dr. André Robidoux, Montreal, QC

14:15 – 16:15
SATELLITE SYMPOSIUM: CARMEL PHARMA CANADA *(Location: Canadian Room, Lower Level)*
SAFETY AND BEYOND...RECOGNIZING THE NEED FOR A CLOSED-SYSTEM DRUG TRANSFER DEVICE, AND UNDERSTANDING THE WAYS THAT IT CAN BENEFIT YOUR WORKPLACE
Flay Charbonneau, Manager Pharmacy, Sunnybrook Odette Cancer Centre, Toronto, ON (Moderator)
Stephen Eckel, Assistant Director of Pharmacy, University of North Carolina Hospitals, USA
Johan Vandenbroucke, President-elect of International Society for Oncology Pharmacy Practice (ISOPP) / Senior Pharmacist Production, University Hospital Ghent Central Pharmacy, Ghent, Belgium
Kathy Gesy, Provincial Leader, Oncology Pharmacy Services, Saskatchewan Cancer Agency, Saskatoon, SK

16:30 – 18:30
SATELLITE SYMPOSIUM: ELI LILLY *(Location: Adam Room, Ground Floor)*
PART 1: MOVING TOWARD PERSONALIZED MEDICINE: LUNG CANCER THERAPY 2009
Dr Natasha Leighl, Medical Oncologist, Princess Margaret Hospital, Toronto, ON
PART 2: ARE WE THERE YET? A CASE PRESENTATION
Louiselle Godbout, Pharmacist, The Ottawa Hospital Cancer Center, Ottawa, ON

18:45 – 20:45
SATELLITE SYMPOSIUM: SANOFI AVENTIS *(Location: Adam Room, Ground Floor)*
CURRENT ISSUES IN THE MANAGEMENT OF COLORECTAL CANCER
Part 1: The Future of Colorectal Cancer Therapy: Biologics and Biomarkers
Jacob Easaw, Clinical Assistant Professor, Medical Oncology, Head, NeuroOncology, GI Oncology, Tom Baker Cancer Center, Calgary, AB
Part 2: Hypersensitivity Reactions: Recognition and Management
Sean Hopkins, Clinical Pharmacy Specialist, Breast Cancer, The Ottawa Hospital Cancer Centre, Ottawa, ON

2009 | Schedule for Saturday, October 24

SATURDAY, OCTOBER 24

06:30 – 08:00
SATELLITE SYMPOSIUM: HOFFMANN – LA ROCHE *(Location: Canadian Room, Lower Level)*
PART 1: BEVACIZUMAB: THE HERE AND NOW AND THE WHAT'S TO COME
Christine Brezden-Masley, Medical Oncologist, St. Michael's Hospital, Associate Professor, University of Toronto, Toronto, ON
PART 2: PRIVATE MARKET 101: ACCESSING DRUGS IN CANADA
Laura Blair, Private Healthcare Manager, Hoffmann-La Roche Ltd

07:30 – 08:15
BREAKFAST *(Location: Ballroom & Laurier Room, Ground Floor)*

08:15 – 08:25
WELCOME AND INTRODUCTION *(Location: Adam Room, Ground Floor)*
Hélène Bourget-Letarte, Pat Trozzo & Lee Gordon

08:30 – 09:25
PLENARY SESSION: GENOMICS *(Location: Adam Room, Ground Floor)*
Carlo De Angelis, Clinical Pharmacy Coordinator, Sunnybrook & Women's Health Sciences Centre, Toronto, ON

09:30 – 10:25
PLENARY SESSION: DRUG INTERACTIONS IN ONCOLOGY PHARMACY *(Location: Adam Room, Ground Floor)*
Scott Edwards, Clinical Oncology Pharmacy Specialist, Dr. H Bliss Murphy Cancer Centre, St Johns, NL

10:30 – 10:50
BREAK *(Location: Ballroom, Ground Floor)*

10:55 – 11:55
PLENARY SESSION: REDUCING THE HAZARDS OF HANDLING CYTOTOXIC CHEMOTHERAPY *(Location: Adam Room, Ground Floor)*
Dr. Robert Dorr, Professor of Pharmacology, College of Medicine, and Director, Pharmacology Research Program, Arizona Cancer Center, Tucson, AZ, USA

12:00 – 12:20
CAPHO PRESENTATION OF NEEDS SURVEY *(Location: Adam Room, Ground Floor)*
Rhonda Kalyn, C.O.N. Pharmacy Educator, BC Cancer Agency – Centre for the Southern Interior, Kelowna, BC

12:20 – 13:00
CAPHO ANNUAL GENERAL MEETING *(Location: Adam Room, Ground Floor)*

13:00 – 14:00
LUNCH *(Location: Ballroom & Laurier Room, Ground Floor)*

14:00 – 15:20
BREAKOUT#A1: TECHNICAL STREAM *(Location: MacDonald Room, Mezzanine)*
PART 1: LATEX ALLERGY SAFETY IN ONCOLOGY: THE PATIENT AND YOU (14:00 – 14:40)
Heidi Schulz, Technical Co-ordinator, Cross Cancer Institute, Edmonton, AB
PART 2: REPETITIVE STRAIN INJURIES IN TECHNICIANS (14:40 – 15:20)
Kelly Ann Wakeford, Senior Technician, Juravinski Cancer Centre, Hamilton, ON

2009 | Schedule for Saturday, October 24 Continued

14:00 – 15:20
BREAKOUT#A2: CLINICAL STREAM *(Location: Adam Room, Ground Floor)*
"SHORT AND SNAPPIES"
1. BRAIN TUMOURS (APPROX. 14:00 – 14:20)
Karen Levac, Ambulatory Oncology Pharmacist, London Regional Cancer Centre, London, ON
2. INTRAPERITONEAL CHEMOTHERAPY (APPROX. 14:25 – 14:45)
Lisa Rambout, Gynecologic Oncology, Clinical Pharmacist Specialist, The Ottawa Hospital, Ottawa, ON
3. TRIPLE NEGATIVE BREAST CANCER (APPROX. 14:50 – 15:10)
Sean Hopkins, Clinical Pharmacy Specialist, Breast Cancer, The Ottawa Hospital Cancer Centre, Ottawa, ON

14:00 -15:20
BREAKOUT#A3: ADMINISTRATIVE STREAM *(Location: Renaissance Room, Mezzanine)*
IMPLEMENTING TELEPHARMACY IN A COMMUNITY CANCER NETWORK – THE ALBERTA + BC EXPERIENCE
Dana Cole, CAPhO President, Interim Regional Director - Pharmacy Services, Northern Health, Prince George, BC
Lee Gordon, Lethbridge Cancer Center, Lethbridge, AB

15:20 – 15:35
BREAK *(Location: Ballroom, Ground Floor)*

15:35 - 16:35
BREAKOUT#B1: TECHNICAL STREAM *(Location: MacDonald Room, Mezzanine)*
UPDATE ON TECHNICIAN REGULATION
Tim Fleming, President and CEO, Canadian Association of Pharmacy Technicians, Mississauga, ON

15:35 – 16:35
BREAKOUT#B2: CLINICAL STREAM *(Location: Adam Room, Ground Floor)*
CHALLENGES IN PEDIATRIC ONCOLOGY
Tejinder Bains, Pediatric Oncology Pharmacist, Children's Hospital of Eastern Ontario, Ottawa, ON
Geneviéve Goulet, Pediatric Oncology Pharmacist, Children's Hospital of Eastern Ontario, Ottawa, ON

15:35 – 16:35
BREAKOUT#B3: ADMINISTRATIVE STREAM *(Location: Renaissance Room, Mezzanine)*
UPDATE ON JOINT ONCOLOGY DRUG REVIEW (JODR)
Mona Sabharwal, Senior Manager, Drug Benefits Management, Ontario Public Drug Programs,
Ministry of Health and Long Term Care, Toronto, ON

16:35 – 18:30
WINE AND CHEESE, POSTER AND EXHIBIT VIEWING RECEPTION *(Location: Ballroom, Ground Floor)*
sponsored by Hospira Healthcare Corporation

19:00 – 22:30
DINNER & ENTERTAINMENT *(Location: Canadian Museum of Civilization)*

2009 | Schedule for Sunday, October 25

SUNDAY, OCTOBER 25

07:00 – 08:30
SATELLITE SYMPOSIUM: CELGENE *(Location: Canadian Room, Lower Level)*
NEW FRONTIERS IN THE TREATMENT OF MDS
Gabriel Gazzé, Oncology Pharmacy, Royal Victoria Hospital, Montreal, QC (Chair)
John Storring, McGill University Health Centre's Department of Medicine, Division of Hematology, McGill University Health Centre, Montreal, QC

08:00 – 08:45
BREAKFAST *(Location: Ballroom & Laurier Room, Ground Floor)*

08:45 – 09:15
ORAL SESSIONS - AWARD WINNING POSTERS *(Location: Adam Room, Ground Floor)*
CAPhO Award Winning Poster
Honorable Mention Poster

09:20 – 10:05
PLENARY SESSION: NCIC PRESENTATION – TRIALS AND TRIBULATION *(Location: Adam Room, Ground Floor)*
Nathalie Letarte, Oncology Pharmacist, Pharmacy Department CHUM, Clinical Professor at the Pharmacy Faculty from the University of Montreal, Montreal, QC (Moderator)

10:05 – 10:25
BREAK *(Location: Ballroom, Ground Floor)*

10:25 – 10:55
PLENARY SESSION: ISOPP PERSPECTIVES *(Location: Adam Room, Ground Floor)*
Carole Chambers, ISOPP President, Alberta Health Services - Pharmacy Director,Cancer Services, Tom Baker Cancer Centre, Calgary, AB

11:00 – 12:00
PANEL: MEDICATION RECONCILIATION IN THE ONCOLOGY SETTING *(Location: Adam Room, Ground Floor)*
Outpatient Perspective:
Darryl Boehm, Provincial Manager, Oncology Pharmacy Services, Saskatchewan Cancer Agency c/o Allan Blair Cancer Centre, Regina, SK
Jamie Trudel, Pharmacy Technician, CancerCare Manitoba, Winnipeg, MB

Inpatient Perspective:
Karen MacCurdy Thompson, Oncology Pharmacist, The Moncton Hospital, Moncton, NB
Martin Franco, Pharmacien, Secteur Hémato-Oncologie, Greffe de Cellules Hématopoïétiques, Hôpital Maisonneuve-Rosemont, Montréal, QC

12:00 – 12:20
QUESTION AND DISCUSSION PERIOD *(Location: Adam Room, Ground Floor)*

12:20 – 12:30
CLOSING REMARKS *(Location: Adam Room, Ground Floor)*

12:30 – 14:30
SATELLITE SYMPOSIUM: BAXTER *(Location: Canadian Room, Lower Level)*
"COLLABORATING FOR CHEMO… A COAST TO COAST PERSPECTIVE"
Carole Chambers, Pharmacy Director, Cancer Services, Alberta Health Services, Calgary, AB
Rose Bortolussi, Pharmacy Technician, Sunnybrook Odette Cancer Centre, Toronto, ON
Rick Abbott, Manager of Oncology Pharmacy, Eastern Health, St. John's, NL
Jan Oruck, Pharmacy Technician-Business Liaison Manager, Baxter Corporation, Toronto, ON
Esteemed International Guest, NSW, Australia

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2009 | NOPS SPEAKER

CARLO DE ANGELIS

Clinical Pharmacy Coordinator, Sunnybrook & Women's Health Sciences Centre, Toronto, ON

BIOGRAPHY

Carlo earned his Bachelor of Science in Pharmacy from the University of Toronto in 1981 and completed a Hospital Pharmacy Residency at Sunnybrook Health Sciences Centre in 1982. He graduated with a Doctor of Pharmacy from the State University of New York at Buffalo in 1984. From 1985 to the present, Carlo has been the Clinical Pharmacy Coordinator for Oncology at the Odette Cancer Centre, Sunnybrook Health Sciences Centre and has owned and managed a community pharmacy, Panacea Pharmacy since 1994.

He is the current President Elect of the Canadian Association of Pharmacy in Oncology.

He is an Associate Professor in the Division of Pharmacy Practice at the Faculty of Pharmacy, University of Toronto and lectures in both the Undergraduate Bachelor of Science in Pharmacy and Doctor of Pharmacy Programs. He has given numerous presentations at local, national and international meetings on various oncology related topics.

His areas of interest include the prevention and management of treatment related side effects in cancer patients, with a particular interest in nausea and vomiting, neutropenia, anemia, neuropathic pain management and end of life care. Additional interests include practice based research to support the clinical activities of Oncology Pharmacists in symptom management, patient counseling and the roll of Pharmacists in promoting good medication taking behavior in the oncology setting.

Carlo is a passionate advocate of the need for pharmacists in both the hospital and community settings to be more involved in the care of cancer patients.

GENOMICS *Saturday, October 24th, 08:30-09:25*

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2009 | NOPS SPEAKER

SCOTT EDWARDS
Clinical Oncology Pharmacy Specialist, Dr. H Bliss Murphy Cancer Centre, St Johns, NL

BIOGRAPHY

Scott Edwards graduated from Memorial University of Newfoundland with a B.Sc. (Neuroscience) in 1994 and a B.Sc (Pharmacy) in 1997. In 2005 he graduated with a Doctor of Pharmacy degree from the University of Washington. Scott is currently a Clinical Oncology Pharmacy Specialist at the Dr. H. Bliss Murphy Cancer Center in St.John's, NL.

Recently appointed to the faculty at MUN School of Pharmacy as an assistant professor.

Current research interest in the management of chemotherapy toxicities as well as oncology supportive care.

DRUG INTERACTIONS IN ONCOLOGY PHARMACY *Saturday, October 24th, 09:30-10:25*

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2009 | NOPS SPEAKER

ROBERT DORR

Professor of Pharmacology, Pharmacology Department, College of Medicine, and
Director, Pharmacology Research Program, Arizona Cancer Center, Tucson, AZ, USA

BIOGRAPHY

Robert T. Dorr is a Professor of Pharmacology and Director of Pharmacology Research at the Arizona Cancer Center, The University of Arizona, Tucson, Arizona. He obtained his B.S. and M.S. degrees in Pharmacy at The University of Arizona in 1974, 1978 respectively; later obtaining his Ph.D. degree, Pharmacology and Toxicology in 1984 . He has conducted and participated in numerous Phase I, II, III clinical drug trials of new antitumor agents at The University of Arizona. He has been funded on several NIH research grants since 1980. Current research interests: characterization and development of cyanoaziridines, such as imexon, for refractory myeloma, melanoma and pancreatic cancer; the development of novel DNA-binding agents for resistant tumors and the use of synthetic melanotropins for skin cancer chemoprevention. He has written over 200 peer-reviewed full-length scientific articles and numerous book chapters and consults on anticancer drug pharmacology for numerous pharmaceutical firms and is considered one of our country's top cancer drug pharmacologists.

SYNOPSIS

REDUCING THE HAZARDS OF HANDLING CYTOTOXIC CHEMOTHERAPY *Saturday, October 24th, 10:55-11:55*

Goal: Provide a comprehensive overview of the risks of handling cytotoxic chemotherapy and the means of reducing those hazards by topical inactivation and other means.

Objective: As a result of attending this presentation the chemotherapy handling health care worker should be able to:

1. Describe the background of studies assessing risks of handling chemotherapy
   a. Case reports of spontaneous cancers
   b. Urinary mutagens
   c. Fertility effects
   d. Chromosomal damage
   e. Drug recovery from work area surfaces

2. List the classes of cytotoxic chemotherapy agents that pose the greatest risk for healthcare workers

3. Describe current means of reducing healthcare risks from handling chemotherapy:
   a. Drug enclosure containment systems (e.g. PhaSeal, others)
   b. Drug preparation containment equipment (hoods, safety cabinets, etc)
   c. Drug inactivation media (e.g. Surface Safe, others)

4. Describe the results from topical inactivation studies
   a. HPLC results
   b. Mutagenic results in the Ames assay

RHONDA KALYN

C.O.N. Pharmacy Educator, BC Cancer Agency - Centre for the Southern Interior, Kelowna, BC

BIOGRAPHY

Rhonda started her oncology pharmacy practice with the BC Cancer Agency in Kelowna in 2002. Prior to 2002, she worked in both retail and hospital pharmacy settings since graduating from the University Of Saskatchewan College Of Pharmacy. At the BC Cancer Agency, Rhonda works as a clinical pharmacist, a pharmacy educator and participates in the Pharmacy Safe Handling Working Group. She is on the planning committee for the Multinational Association of Supportive Care in Cancer (MASCC) Symposium which is being held in Vancouver in 2010. Rhonda is now the Education Chair for the CAPhO executive.

SYNOPSIS

CAPHO ONCOLOGY PHARMACY EDUCATIONAL NEEDS SURVEY RESULTS *Saturday, October 24th, 12:00-12:20*

The Canadian Association of Pharmacy in Oncology (CAPhO) surveyed pharmacists and managers who provide care to cancer patients to determine their educational needs. The survey was available to Canadian pharmacists from July 2 to August 31, 2009.

Objective:

- To highlight key points of the survey results
- To introduce the committee that will review the survey and use it develop a Canadian Oncology Pharmacy Education (COPE) Program
- To discuss initial plans for developing the COPE program

2009 | NOPS SPEAKER

HEIDI SCHULZ

Technical Co-ordinator, Cross Cancer Institute, Edmonton, AB

BIOGRAPHY

Heidi Schulz is a Pharmacy Technical Coordinator at the Cross Cancer Institute and has been employed there for the past 22 years. She is a graduate from the Red Deer College Pharmacy Technician Program class of 1987 and completed the Pharmacy Technician Certification Board of Alberta Exam in 2001. She is a Chairperson of several work related committees including the Cancer Care, Alberta Health Services IV team. She also maintains the Alberta Training Manual for the Preparation of Parenteral Cytotoxic Admixtures which is used throughout the Cancer Network in Alberta.

SYNOPSIS

LATEX ALLERGY SAFETY IN ONCOLOGY: THE PATIENT AND YOU *Saturday, October 24th, 14:00-14:40*

This presentation will educate the audience on the potential health risks associated to latex sensitivity. It will provide an overview of the recommended guidelines for preparing medications for latex sensitive/allergic patients as well as review the extra steps necessary when handling hazardous drugs. It will also provide information on ways to minimize latex exposure to the operator (technician) when handling these preparations. The presentation covers an example set of procedures which is followed within the Alberta Cancer Care network. At the end of the presentation the audience will be provided with a checklist to assist them in determining how they can make their Oncology Pharmacy a more latex safe environment.

Objectives:

1. Understand the potential health risks related to latex sensitivity.
2. Review the recommended guidelines for patient and operator safety.
3. Understand the procedures followed within the Alberta Cancer Care network.

Alberta Health Services

Latex Allergy Safety in Oncology: the Patient and You

Heidi Schulz, ACP Registered Pharmacy Technician
Pharmacy Technical Coordinator
Cancer Care, Alberta Health Services
Cross Cancer Institute, Edmonton, Alberta

National Oncology Pharmacy Symposium
October 24, 2009, Ottawa, Ontario

Alberta Health Services

Objectives

- Understand the potential health risks related to latex sensitivity/allergy
- Review the recommended guidelines for operator and patient safety
- Understand the procedures followed within the Alberta Cancer Care Network
- To take home checklist to review your Oncology Pharmacy for a better latex safe environment

Alberta Health Services

Latex – the Protein, the Allergy

- 'Latex' refers to Natural Rubber Latex (NRL) a product produced from the milky sap derived from the rubber tree, *Hevea brasiliensis*
- Ammonia is added to the sap to enhance qualities[1]
- Proteins in latex can cause a range of allergic reactions
- 13 different latex allergens are identified by the International Union of Immunological Societies (IUIS)[2]

Hevea Rubber Tree

Alberta Health Services

Background

- Risk factors for the development of Natural Rubber Latex (NRL) sensitivity or allergy begins with:
- Frequent and early exposure to NRL[3]
- Numerous surgical procedures
- Hereditary disorder to develop hypersensitivity reactions to allergens
- Healthcare workers due to workplace exposure (latex gloves, tourniquets, injection ports, rubber vial tops)
  - 8-17% of healthcare workers and 1-3% of the general population are sensitized to latex[4]
  - and over 2% have occupational asthma as a result of latex exposure[1]

Latex Glove

Alberta Health Services

Sensitization begins

- Exposure to latex proteins causes the body's immune system to develop antibodies to these proteins
- Body perceives the protein as a threatening foreign substance, it prepares to defend against future encounters using the antibodies it created
- People may have been sensitized to latex without yet showing external allergic symptoms
- Risk of becoming increasingly sensitized and eventually symptomatic if repeated exposure to latex continues[5]

Alberta Health Services

Three different possible reactions

1. **Non-allergic irritant contact dermatitis (NRL Sensitivity):**
   - Most common and is **not** an actual allergy
   - Glove powder, repeated washing, hand cleansers/sanitizers
   - Redness, scaling, dryness, itching (hands)
2. **Allergic contact dermatitis (NRL Allergy):**
   - Localized type IV or cell-mediated delayed hypersensitivity reaction
   - Caused by chemical antigens added to natural latex
   - Products labeled 'hypoallergenic' are low in these chemicals.
   - Redness, itching and vesicle formation begin several hours after exposure with maximum effects at 24-48 hours

Alberta Health Services

Three different possible reactions

3. **Allergic IgE mediated reaction (NRL Allergy):**
   - Type I hypersensitivity reaction (IgE mediated)
   - Begins within minutes of exposure
   - Rashes, hives, flushing, itching, sneezing, sore throat, bronchospasm, chest tightness and wheezing
   - Similar to a bee sting allergic reaction

Hives

Alberta Health Services

Safety for You

- National Institute for Occupational Safety and Health (NIOSH). "Preventing Allergic Reactions to Natural Rubber Latex in the Workplace"[6] www.cdc.gov/niosh
- Alert your manager/supervisor of any allergies (including food and latex allergies)
- Use non-latex gloves whenever possible
  - May be a cost issue
- If you choose latex gloves, use powder-free gloves with reduced protein content
  - Reduce exposures to latex protein – reduce risk to latex allergy
  - Hypoallergenic latex gloves do not reduce the risk of latex allergy; however, does reduce reactions to chemical additives.

Alberta Health Services

Safety for You

- Other Gloving Options
  - Natural Rubber Latex Gloves with Liners
  - Double Gloving – non-allergic material as first layer with Natural Rubber Latex as second layer
  - Latex-free Surgical Gloves (cost lowering in price)
  - Latex-free non-sterile Chemotherapy Gloves
    - Double gloving in Chemotherapy (NIOSH)
    - Change top set every 30 minutes (NIOSH)

"Non-NRL gloves, such as neoprene or nitrile, are Safe for use in the preparation of chemotherapy" (Canadian Society of Hospital Pharmacists - CSHP)[3]

Nitrile exam glove

Sterile Surgical Neoprene

non-sterile Neoprene chemotherapy

Alberta Health Services

Safety for You

- Appropriate work practices to reduce the chance of reactions to latex
  - Do not use oil-based hand creams or lotions when wearing latex gloves (may cause glove deterioration)
  - Wash hands and dry thoroughly after removing latex gloves
  - Frequently clean areas and equipment contaminated with latex-containing dust

Alberta Health Services

Safety for You

- Take advantage of latex allergy education and training by your employer (or other organizations) and become familiar with procedures for preventing latex allergy
- Learn to recognize the symptoms of latex allergy: skin rashes; flushing; itching; nasal, eye, or sinus symptoms; asthma; and (rarely) shock
- If you develop symptoms of latex allergy, avoid direct contact with latex gloves and products until you can see a physician experienced in treating latex allergy

Pharmacy Technician Society of Alberta CE Module "Latex Allergies and the Pharmacy Technician"

Alberta Health Services

Safety for You

- If you have a latex allergy, consult your physician regarding the following precautions
  - Avoid contact with latex gloves and products
  - Avoid areas where you might inhale the powder from the latex gloves worn by others
  - Tell your employers, physicians, nurses, and dentists that you have a latex allergy
  - Wear a medical alert bracelet

Alberta Health Services

Cancer Care, Alberta Health Services

- 1990's, developed a provincial program for physician, pharmacy and nursing personnel to improve access to cancer programs and services to rural Albertans
- 1990's, provincial pharmacy initiative in standardizing policies and procedures,
  Tertiary (Major) Cancer Centre, Associate Cancer Centre, Community Cancer Centre

Alberta Health Services

Cancer Care, Alberta Health Services

- Cross Cancer Institute (CCI) pharmacy site in Edmonton and Tom Baker Cancer (TBCC) pharmacy site in Calgary
  - Provincial Director, site Pharmacy Coordinators, Technical Coordinators, provincial policies and procedures, etc.
- 30 pharmacists and 30 technicians at the Cross Cancer Institute and 26 pharmacists and 21 technicians at the Tom Baker Cancer Centre
- Statistics. Prepare chemotherapy admixtures for approx 200 outpatients and 270 chemotherapy medications patients take home per day. Plus 54 inpatient beds at the CCI.


Cross Cancer Institute


Tom Baker Cancer Centre

Alberta Health Services

Cancer Care, Alberta Health Services

- 1990's, Developed Pharmacy Training Manual for the Preparation of Parenteral Cytotoxic Admixtures, Eighth Edition, June 2005
- Pharmacists and Technicians at the CCI and TBCC involved in developing the manual based on CSHP, ASHP & OSHA guidelines
- CSHP award 1999
- Used throughout Cancer Care Alberta Pharmacies as a training and reference tool for pharmacists and technicians
- Includes a Latex Allergy Protocol (Procedures)

Alberta Health Services

Safety for the Patient

CSHP "Guidelines for Preparing Medications for Natural Rubber Latex (NRL) Sensitive/Allergic Patients" (2001)
www.cshp.ca

Canadian Society of Hospital Pharmacists
Société canadienne des pharmaciens d'hôpitaux

Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

Policy: Pharmacy shall initiate the Latex Allergy Protocol upon notification that a latex allergy patient requires pharmacy services

- Educate Pharmacy Staff on the potential health risks
- Provide latex-safe environment to decrease risk of anaphylactic reactions in latex-allergy patients
- Provide a compendium of latex free drugs, supplies, and devices for the purposes of manufacturing, admixing and dispensing medications to latex allergy patients which is updated annually

Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Staff training and part of annual certification (Pharmacists and Technicians)
- Pharmacist and Technician team update the Latex Allergy Protocol and deal with issues
- Medical/Surgical Product Evaluation form includes Latex content

2009 | HEIDI SCHULZ PRESENTATION HANDOUTS

Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Pharmacy Tender Document includes statement to vendor requesting information about Latex content
- Pharmacy maintains a binder listing the vendor and product communications on latex content
- Pharmacy Technician contacts the Vendors and collates for the pharmacist. (via phone, internet, lilac pages of CPS.)
- Pharmacy Technician reviews drug wardstock supply and notifies nursing locations of brands which may contain latex

www.albertahealthservices.ca 19

Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Pharmacy Documentation
  - Latex allergy status in patient profile (computer)
  - Document patient name on Latex Communication board in pharmacy
  - Label all medication orders with latex allergy status
  - Order Entry/Patient Profiling
    - Indicate on Order Entry checklist – latex status
    - Note intravenous, intramuscular, subcutaneous and oral liquid doses. Change oral liquid to tab/cap
    - If order prepared in Clean Room (IV Preps), place order in clean ziplock bag

Communication Board

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Safety for the Patient (Latex Allergy Protocol)

- Dispensing Oral Medications:
  - Use patient's own supply if possible
    - Do not label 'latex-free' as status can not be confirmed
  - Pharmacy dispensed medications
    - Hands and equipment washed
    - Use bulk medication supplies or manufacturer's unit dose packages
    - Place latex allergy on patient label
    - Dispense in latex free vials
    - Place and keep medications in clean ziplock bag

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Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Dispensing Injectable Medications:
  - Dispense latex free vials (refer to pharmacy product list – assume contains latex until verified by Manufacturer)
  - Use glass ampoules as alternate to vials with latex stoppers
  - Place in clean ziplock bag and label "Latex Allergy Protocol followed in preparation of this medication"
  - Manufacturer's premade minibags with latex port – cover with tamper proof seal

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Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Scheduling
    - Prepare at beginning of work day to ensure:
      - Latex glove powder levels are lowest
      - Personnel and Biological Safety Cabinet (BSC) – no contact with latex products
    - If beginning of day is not possible, clean BSC with latex free Personal Protective Equipment. Wait 30 minutes for BSC air to purge

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Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Set Up Area/Anteroom and Personnel
    - Wash hands thoroughly to remove traces of latex
    - Clean Set up counter and bins with soap and water (or 70% Isopropyl alcohol)

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Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Preparation of Clean Room and Personnel
    - Wash hands thoroughly to remove traces of latex
    - Don Personal Protective Equipment and latex free gloves
    - Clean interior surfaces of BSC as per daily clean instructions. Allow BSC air to purge 15 minutes
    - Don new latex free gloves, double glove for cytotoxic admixtures

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Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Clean Room Manufacturing Supplies
    - Clean work surface of cart
    - New or cleaned equipment (ie. Non latex bins, drapes, new package of gauze, etc.)
    - Latex free syringes, luer lock caps
    - Reconstitution solutions (use new polyamps, solution bag)

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Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Drug & Solution Container Selection:
    - Latex free vials (refer to pharmacy product list – assume contains latex until verified by Manufacturer)
    - Use new vials not previously punctured
    - Multiple dose protocol (record latex status of drug on workcard, collect required latex free vials for future doses)

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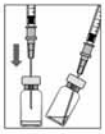
Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Vial Manipulation of closures with unknown or confirmed latex content
    - **Cytotoxic vials with unknown or confirmed latex content**
    - Due to increased risk of exposure to the healthcare worker handling the product, it is **not** recommended to remove the stopper of the vial (CSHP).
    - Alternative option: (CSHP) Limit vial access to one puncture (solution medications) or two punctures (powder medications requiring reconstitution). Change needle prior to injecting into solution bag.



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Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Vial Manipulation of closures with unknown or confirmed latex content
    - **Non-cytotoxic vials with unknown or confirmed latex content**
    - Aseptically remove stopper
      - Remove aluminum ring and stopper with tweezers (or hand decapper) ensuring no contact with drug
      - Controversy due to potential reconstitution problems and microbial or particulate contamination with an open system

Hand Decapper

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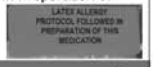
Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Admixing Medications in an IV Bag with latex port
    - **Cytotoxic Parenteral Admixtures**
    - Cover latex drug admin port with tamper proof seal
    - Remove pull tab from admin port (second port)
    - Inject drug through vinyl septum of second port
    - Spike second port with appropriate IV Administration Set (line)
    - Label with "Latex Allergy Protocol followed in Preparation of this medication"



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Safety for the Patient (Latex Allergy Protocol)

- Preparation of Sterile Parenteral Admixtures:
  - Delivery of medications from pharmacy to nursing unit:
    - Wash hands
    - Deliver medications for latex-allergy patients separately from other deliveries
    - Deliver medications in clean ziplock bag
    - Deliver in latex free tray
    - Arrange a delivery site at nursing station

Alberta Health Services

Safety for the Patient (Latex Allergy Protocol)

- Satellite Pharmacy
  - Location to make latex safe
  - No use of Latex Gloves
  - Cost impact is minimal
  - Continue to follow Latex Allergy Protocol
  - No need for Latex Allergy Supply cart as supplies would be in Satellite Pharmacy

Alberta Health Services

References

- 1. The American Academy of Family Physicians, 1998 www.aafp.org. viewed 09/22/09
- 2. Yeang HY. Natural Rubber latex allergens: new developments. Curr Open Allergy Clin Immunol 2004 Oct:4(5):397-40
- 3. Canadian Society of Hospital Pharmacists. Guidelines for Preparing Medications for Natural Rubber Latex (NRL) Sensitive/Allergic Patients, 2001.
- 4. Environmental Health and Safety, California Berkley University
- 5. Allergic Reactions Central. www.allergic-reactions.com Accessed 05/11/06
- 6. DHHS(NIOSH) Publication No. 97-135 www.cdc.gov/niosh viewed 09/22/09

American Latex Allergy Association www.latexallergyresources.org

Alberta Health Services

Questions?

2009 | NOPS SPEAKER

KELLY-ANN WAKEFORD

Senior Technician, Juravinski Cancer Centre, Hamilton, ON

BIOGRAPHY

Kelly-Ann is the senior pharmacy technician at the Juravinski Cancer Centre in Hamilton, Ontario. She has worked there for 22 years and really enjoys her job.

Kelly-Ann is a certified technician with the Ontario College of Pharmacists and is planning to go back to school to upgrade to a regulated pharmacy technician.

Kelly-Ann's specialty is chemotherapy and she trains and certifies all technicians at the Cancer Centre in chemotherapy preparation and checking. Kelly-Ann also taught the practical chemotherapy i.v. course at Mohawk College to set a high standard within the area of all practicing pharmacy technicians.

SYNOPSIS:

REPETITIVE STRAIN INJURIES IN TECHNICIANS *Saturday, October 24th, 14:40-15:20*

Overview of what repetitive strain is

- Explanation of workplace pains and strains and why be concerned
- How to manage work place strains if they occur and then re-orientate staff back into full duties
- Explanation of what happened at the Juravinski Cancer Centre with repetitive strain and how we managed the situation
- How to prevent workplace strains
- How the Juravinski Cancer Centre functions today so we don't have repetitive strains
- Stretches for staff to perform to help in between sessions in the Biological Safety Cabinet

Repetitive Strain and the Pharmacy Technician

By:
Kelly-Ann Wakeford
Senior Pharmacy Technician
JCC Pharmacy, Hamilton, ON

Definition of Repetitive Strain

- Potentially debilitating condition resulting from overuse to perform a repetitive task stemming from prolonged, forceful, or awkward movements
- With mixing chemotherapy, this can result in damage to muscles, tendons, and nerves of the neck, shoulder, forearm and hand which can cause pain, weakness, numbness, or impairment of motor control

Why Repetitive Strain Happens

- Fine hand movements, repeated hour after hour, day after day, thousands upon thousands of times, eventually strain the muscles and tendons of the forearms, wrists, and fingers, causing microscopic tears
- Injured muscles tend to contract, decreasing the range of motion necessary for stress free work. The sheaths that cover delicate tendons run out of lubrication because they are not given time to rest, so tendon and sheath chafe, resulting in pain
- Due to this abrasion, tendons become inflamed, and begin to pinch neighboring nerves. This can result in numbness, tingling or hypersensitivity to touch

MSD and All It's Injuries

- MSD means Musculoskeletal Disorder which encompasses workplace pains and strains which affect the muscles, tendons, ligaments, and nerves
- MSD is not a medical diagnosis but a term for a group of injuries which include : back pain, muscle strain, carpal tunnel syndrome, rotator cuff syndrome, tennis elbow, and shoulder pain

MSD Warning Signs

- Workers making their own modifications to tools or workstations
- Workers wearing splints or supports on their own without medical advice
- Workers massaging muscles or joints or shaking their limbs
- Workers commenting about reporting pain, discomfort, or fatigue
- Workers avoiding a certain task or job because it hurts them

Classification of RSI Injuries

- Rapid movement injuries, caused by repeated rapid movements
- Forceful movement injuries, caused by exertion of muscle movement
- Static loading injuries, caused by fixed positioning with unsupported limbs

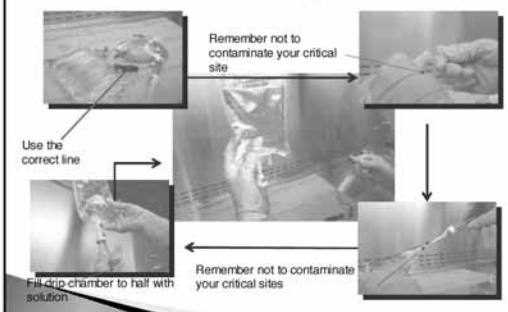
Symptoms of RSI's

- RSI's can range from a sense of discomfort to excruciating pain
- Symptoms include:
- Numbness
- Tingling and/or burning sensations
- Pain, dull ache
- Dry, shiny palm
- Loss of ability to grasp, impaired thumb and finger dexterity
- Swelling around the wrist and hand
- Aches and pains which may be stronger at night

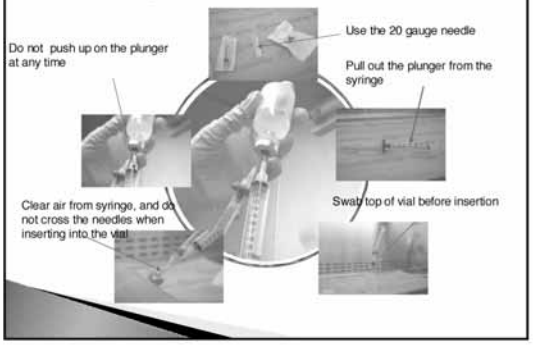
So many muscles , tendons, and nerves can be affected.

Infuser / Intermate Device

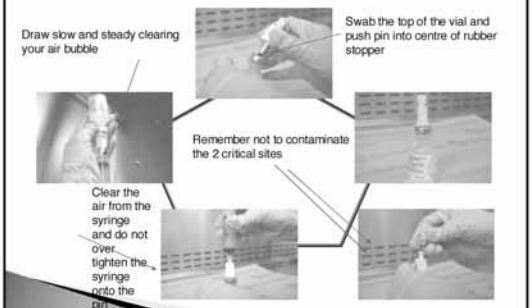
Prime Line Technique



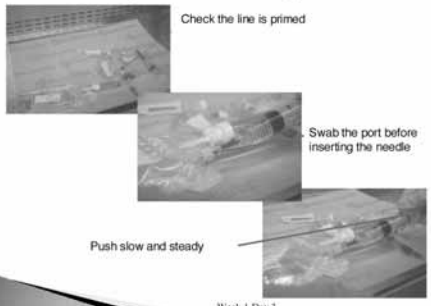
Venting Needle



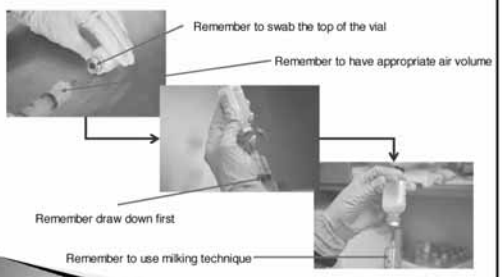
Chemo Pin (Spike)



Technique – Pushing into IV Bag



Technique – Negative Pressure



Risk Factors

- Awkward Body Posture
- Repetition
- Force
- Vibration
- Workplace and Work Solutions

Why Should You Be Concerned?

- Can be serious and disabling for Ontario workers causing pain and suffering ranging from discomfort to severe disability
- MSD's (Musculoskeletal disorders) are costly to employers
- From 1996–2004, Ontario workers compensation system approved more than 382,000 MSD lost-time claims. These claims led to nearly 27 million lost-time days and direct costs of more than 3.3 billion

How can we prevent these injuries?

- Prevention can often be simple and inexpensive
- Often making straight forward and basic changes can reduce MSD risks significantly

Simple as getting a hand massage

Prevention Is Good Business

- It is less expensive to prevent an injury than it is to make changes and corrections after an injury has occurred
- Don't wait for an injury to happen – take proactive steps to reduce a worker's exposure to MSD risk factors as it will pay off in the future

Management to Involve the Workers

- Listening to workers concerns is critical when it comes to prevention
- Workers know their jobs and they know what parts of the job cause them pain, discomfort or fatigue and frustration
- Involve the workers in the process of identifying, assessing and controlling risk factors in the workplace

It is the Law

- Having a program to prevent MSD's in the workplace is not only the right thing to do – **it is the law**
- The Occupational Health and Safety Act requires employers to ensure that workers are aware of the hazards associated with their jobs and that controls have been implemented to reduce the risk of injury from these hazards
- The Ministry of Labour enforces Ontario's labour laws and could visit your workplace at any time

What Happened at the JCC??

Ergonomic Fact and Recommendations

- **Ergonomic Fact:**
- Forward reaching (frequent reaches) should be performed in the primary zone which covers a distance of 0-36 cm.
- Side reaching (for items stored on shelves) should be performed in the secondary zone which covers a distance of 36-50 cm.
- **Observations:**
- It is 18 cm past the fume hood grill; most work under the fume hood is done at approximately 38cm
- Items are stored on shelving with a maximum lateral distance of 30 cm; these items are not directly beside the worker but stored on a large unit that extends approximately 3-4 feet
- **Recommendation:**
- Reaching tasks within the fume hood should be kept as close to the body as possible (decrease forward reaching)
- Workers need to cautiously move their bodies (even if it is in the chair) to obtain supplies rather than awkwardly reaching to the side and behind them (this puts their shoulder in an unnatural position)

Analyzing Repetition in the Hood

- **Ergonomic Facts:**
- Generally speaking, it is recommended to design jobs where you can avoid the following:
- Jobs that have a total cycle time of less than 30 seconds
- Jobs that have similar functioning tasks for more than 1/3 of the total cycle
- Jobs that have a fundamental cycle that exceeds 50% of the total cycle time (i.e.: need to have a long enough rest period within each repetition of the task)
- Jobs that combine repetition with other ergonomic risk factors (i.e.: reaching)
- Specific Repetition guidelines based on which muscle group is performing the movement (Kilbom, 1994)
- shoulder - less than 3 movements per minute
- upper arm - less than 10 movements per minute
- forearm/wrist - less than 10 movements per minute
- fingers - less than 200 movements per minute
- Each worker rotates into the fume hood for approximately 1 hour each shift. It has been determined that on average, each worker performs the following tasks within their one hour in the hood:
- pulling into a syringe with a pin ~13 times/hr
- pulling into a syringe without a pin ~ 19.2 times/reconstitute vial with a pin ~ 1 time/hr
- reconstitute vial without a pin ~ 3.6 times/hr
- push syringe into mini bag ~ 10.1 times/hr
- push syringe into intermate ~ 1.3 times/hr
- withdrawing from mini bag ~ 1.2 times/hr

What measurements were done?

- Pulling into a syringe with a chemo spike
- Pulling into a syringe using negative pressure
- Pushing volume from syringe into a minibag
- Pushing into an intermate pump
- The average female can exert a force of ~7.4-9.5 kgs maximum with their thumb and opposing fingers (Catovic et al 1991). For frequent tasks, it is recommended that the force required be 25% of their maximum. Therefore 25% of 9.5 = 2.375

Conclusion of Measurements

- In each of the different areas of pushing or pulling, pharmacy technicians were above ergonomic guidelines
- Recommendation is to use an automated pump where ever possible

Pharm Assist Pump

Accumulating Risk Factors

- With each function, shoulder reps, wrist reps and also finger reps were all taken into account
- Shoulder reps were above guidelines
- Wrist reps were below guidelines
- Finger reps were below guidelines
- Lighting was also adjusted as some parts of the room did not have sufficient lighting (addition of task lighting) and some parts were too well lit (softer bulbs). Inside the hoods were fine other than there is a bit of a glare on two out of the three hoods. Adjusting lighting in the room should take care of these issues
- Counter heights were adjusted as our checking counters were too low for precise work (writing and checking) which eliminated bending over

Final Recommendations

- Rotation of two staff members through the hood, alternating tasks every 20 minutes over a three hour period
- Tasks that have similar functioning requirements (using similar muscle groups) for more than 33% of the total job should be avoided – rotation as above would spend a cumulative time of 100 minutes in the hood. This would account for 22% of the total job. For a staff member to reenter the hood after a 3 hour cycle, they would only be able to perform an extra two 20 minute cycles. This would now account for 31.1% of the total job.
- Staff to take appropriate rest breaks between tasks and also perform stretches to reduce the likelihood of developing repetitive strain injures

JCC Pharmacy Department Guidelines

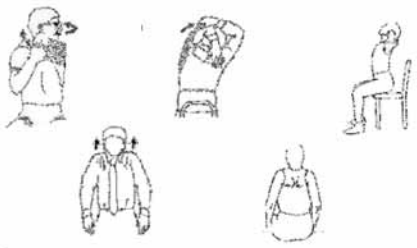
- When a technician goes into the hood to prepare chemotherapy, he/she signs in the time to start preparation and then signs out when finished. This gives the staff member and the employer an amount of mixing time per day
- Rotations of duties, mixer becomes the checker and the checker becomes the mixer after 30–40 minutes (tech check tech model)
- Other duties to rotate to : intake technician, stocking technician, or other duties outside the room to give adequate rest periods

Stretching Benefits

- **Benefits of Stretching**
- • Improve range of motion
- • Decrease muscle fatigue
- • Reduce muscle and connective tissue soreness
- • Decrease the risk of a repetitive strain injury
- • It feels good!
- **Stretching Tips**
- • Hold a stretch for 15–20 seconds
- • Stretch until the point of gentle tension and never stretch into pain!
- • Stretches should be gentle and slow, never bouncy!

Stretches

Stretches



Stretches

For More Information

- To get more information on how to develop and implement an MSD prevention program, contact your health and safety association. Here is a list of Ontario's health and safety associations.
- 1. Ministry of Labour (www.labour.gov.on.ca)
- 2. WSIB (www.wsib.on.ca)
- 3. Prevention Dynamics (www.preventiondynamics.com)

Teamwork

Thank you - Any Questions or Comments?

References

- IAPA (Industrial Accident Prevention Association) www.iapa.ca
- www.repetitivestraininjury.org
- WSIB (Workplace Safety & Insurance Board) www.wsib.on.ca
- CUPE (Canadian Union of Public Employees) www.cupe.ca
- Hamilton Health Sciences Ergonomic Report written by Steve Jamieson, Ergonomics Coordinator for Hamilton Health Sciences
- Telus Sourcing Solutions, Hamilton Health Sciences Human Resources

2009 | NOPS SPEAKER

KAREN LEVAC

Ambulatory Oncology Pharmacist, London Regional Cancer Centre, London, ON

BIOGRAPHY

Since 1990:
Oncology Ambulatory Pharmacist
London Regional Cancer Program

Responsibilities:
Outpatient dispensary
Chemo preparation area
Oncology Medication Committee representative
OPIS2005 Implementation Committee
NCIC CTG CNS Pharmacy Representative
NCIC CTG Sarcoma Pharmacy Representative

Pharmacist on disease site team:
Currently: breast
Previous: neuroendocrine, Gastrointestinal, CNS

SYNOPSIS:

BRAIN TUMORS *Saturday, October 24th, 14:00-14:20*

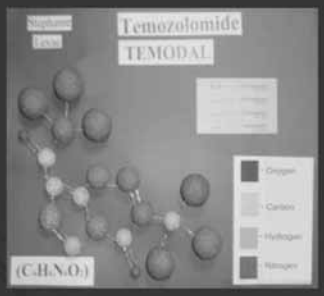
Treatment of brain tumours changed in 2005 with the approval of temozolamide. Standard treatment of newly diagnosed glioblastoma with temozolamide and radiation has increased the 2 year survival rate of patients. This talk will look at the advances in the treatment of brain tumours beyond temozolamide.

Objectives:

- To explore the challenges of delivery of therapeutics to the brain and how this affects current and future research
- To explore the new therapeutic strategies, such as targeted therapies and anti-angiogenic treatments
- To describe the advances in our understanding of disease response, and resistance

Beyond Temozolomide: Treating CNS Tumours

Karen Levac
NOPS 2009



Objectives

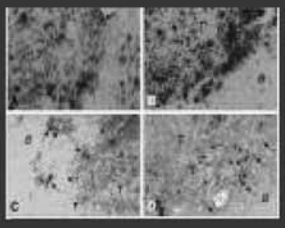
- To describe the advances in our understanding of disease response, and resistance
- To explore the challenges of delivery of therapeutics to the brain
- To explore the new therapeutic strategies, such as targeted therapies and anti-angiogenic treatments

Adequate Delivery

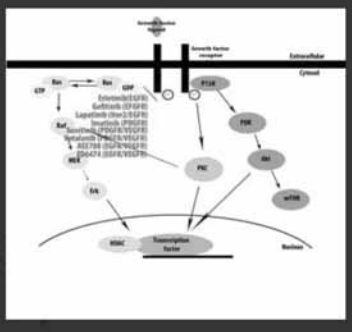
- BBB (blood-brain-barrier)
  - Disruption
  - Intraarterial
  - Intratumoral

Adequate Delivery

- Blood Tumour Barrier



Gene Ther Mol Biol Vol3, 1-14 August 1999



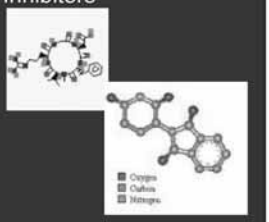
Adapted from: The Oncologist 2006;11:152-164

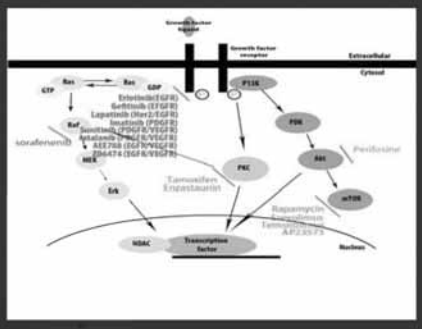
Targeted Systemic Therapy

- VEGFR
  - Bevacizumab
  - Cediranib (AZ2171)
  - Sorafenib
- EGFR
  - Erlotinib
  - AEE788
- PDGFR
  - Imatinib
  - Sunitinib
  - Dasatinib

Targeted Systemic Therapy

- Histone Deactylase Inhibitors
  - Vorinostat
- Integrin Inhibitors
  - Cilengitide
- Anti-angiogenic
  - Thalidomide

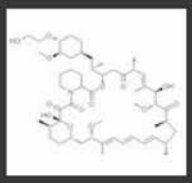




Adapted from: The Oncologist 2006;11:152-164

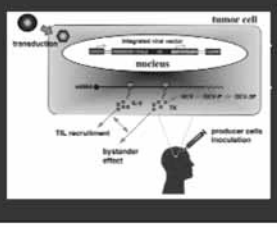
Targeted Systemic Therapy

- Perifosine
- mTOR inhibitors
  - Everolimus
  - Temsirolimus



Biologic Approaches

- Interferons
- Vaccines
- Gene therapy



Resistance

- Continuous schedule of temozolomide
- O6-benzylguanine (O6BG)
  - Irreversible inhibition of enzyme AGT
  - In phase I trial with BCNU required significant reduction in dosage and strategy abandoned
- Carmustine poylmer wafer

Challenges

- Resistance to treatment remains a major barrier
- Adequate delivery (BBB, BTB)
- Specificity to tumor cells relative to normal cells
- Concomitant medications
- Ability to do clinical trials
- Cost

Other Research

- Quality of life
- Psychosocial studies

Summary

2009 | NOPS SPEAKER

LISA RAMBOUT

INTRAPERITONEAL CHEMOTHERAPY *Saturday, October 24th, 14:25-14:45*

Intraperitoneal Chemotherapy for Ovarian Cancer

Ovarian cancer

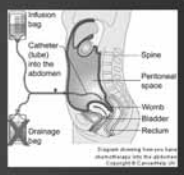
- Leading cause of death from gynaecologic malignancy in Canada
- Usually diagnosed as advanced disease
- Over half of women relapse and die of their disease

Ovarian cancer treatment

- Usually treated with upfront surgery
  - Optimally debulked
  - Suboptimally debulked
- followed by platinum/taxane chemotherapy
- Treatment of recurrent disease depends on length of the treatment free interval
  - < 6 months: non platinum containing regimen
  - 6-12 months: platinum based regimen

Disease schema

What is IP chemotherapy?



Rationale for IP chemotherapy

- Residual cancer after upfront surgery is confined to the abdomen
- Recurrences are in the abdomen
- A means of increasing the dose intensity to the tumour

The history of IP chemotherapy

- Route of administration first proposed decades ago

The evidence for IP chemotherapy

- 7 randomized trials in the past 10 years
- Optimally debulked patients
- 21.6% decrease in risk of death compared to IV chemotherapy
- 1 year survival advantage among optimally debulked patients

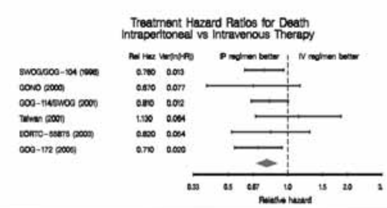
Randomized trials of IP chemotherapy

Table 1: Randomized trials conducted between 1994 and 2005 assessing IP chemotherapy after primary surgery for treatment of ovarian cancer.

Study Identifier / Year Published / reference	Control Regimen	Experimental Regimen	Eligible patients	Number of patients
1994 ([illegible])	Cisplatin 100 mg/m² IV; cyclophosphamide 600 mg/m² Q 3 weeks x 6	Cisplatin 100 mg/m² IP; etoposide 350 mg/m² IP Q 4 weeks x 6	Stage III-IV	62
SWOG 8501/ GOG 104 1996 (Alberts 1996)	Cisplatin 100 mg/m² IV; cyclophosphamide 600 mg/m² IV Q 3 weeks x 6	Cisplatin 100 mg/m² IP; cyclophosphamide 600 mg/m² IV Q 3 weeks x 6	Stage III, ≤ 2 cm residual	546
Greek 1999 ([illegible] 2000)	Carboplatin 350 mg/m² IV; cyclophosphamide 600 mg/m² IV Q 3 weeks x 6	Carboplatin 350 mg/m² IP; cyclophosphamide 600 mg/m² IV Q 3 weeks x 6	Stage III	90
GONO 2000 (Gadducci 2000)	Cisplatin 50 mg/m² IV; cyclophosphamide 600 mg/m² IV; epidoxorubicin 60 mg/m² IV Q 4 weeks x 6	Cisplatin 50 mg/m² IP; cyclophosphamide 600 mg/m² IV; epidoxorubicin 60 mg/m² IV Q 4 weeks x 6	Stage II-IV, < 2 cm residual	113
GOG 114/ SWOG 9227 2001 (Markman 2001)	Cisplatin 75 mg/m² IV paclitaxel 135 mg/m² (24 hr) IV Q 3 weeks x 6	Carboplatin (AUC 9) IV q 28 days x 2; cisplatin 100 mg/m² IP; paclitaxel 135 mg/m² (24 hr) IV Q 3 weeks x 6	Stage III, ≤ 1 cm residual	462
Taiwan 2001 ([illegible] 2001)	Cisplatin 50 mg/m² IV; cyclophosphamide 500 mg/m² IV; epidoxorubicin/ Doxorubicin 50 mg/m² IV Q 3 weeks x 6	Cisplatin 100 mg/m² IP; cyclophosphamide 500 mg/m² IV; epidoxorubicin / Doxorubicin 50 mg/m² IV Q 3 weeks x 6	Stage III, ≤ 1 cm residual	118
GOG 172 2005 (Armstrong 2006)	Cisplatin 75 mg/m² IV; paclitaxel 135 mg/m² (24 hr) IV Q 3 weeks x 6	Paclitaxel 135 mg/m² (24 hr) IV; cisplatin 100 mg/m² IP; paclitaxel 60 mg/m² IP on day 8 Q 3 weeks x 6	Stage III, ≤ 1 cm residual	415

Hazard ratios for death

Figure 1: Hazard ratios (IP vs. IV) of the randomized trials conducted between 1994 and 2005 assessing IP chemotherapy after primary surgery for treatment of ovarian cancer.

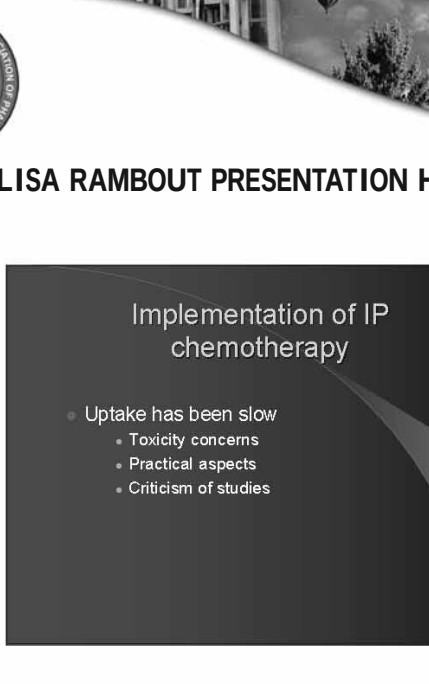


Recommendations for IP chemotherapy

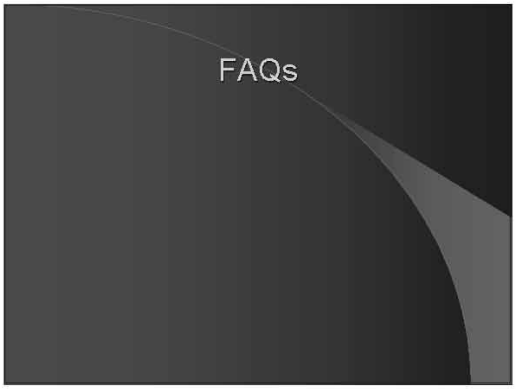
- National Cancer Institute/National Institute of Health issues statement recommending IP chemo for women with optimally debulked epithelial ovarian cancer

The toxicities associated with IP chemotherapy

- All studies show greater toxicity associated with IP administration
  - Nephrotoxicity
  - Neurotoxicity
  - Nausea and vomiting
  - Electrolyte disturbances
  - Abdominal pain
  - Catheter complications


Implementation of IP chemotherapy
Uptake has been slow
Toxicity concerns
Practical aspects
Criticism of studies


Pharmacy perspectives


FAQs

2009 | NOPS SPEAKER

SEAN HOPKINS

TRIPLE NEGATIVE BREAST CANCER

Saturday, October 24th, 14:50-15:10

2009 | NOPS SPEAKER

LEE GORDON
Lethbridge Cancer Center, Lethbridge, AB

DANA COLE
CAPhO President, Interim Regional Director - Pharmacy Services, Northern Health, Prince George, BC

BIOGRAPHY:

Lee graduated from Pharmacy at the University of Alberta in 1979. After initially practicing in a community setting he transitioned to the Lethbridge Cancer Center in 1989. In 2006 he completed a Doctor of Pharmacy Degree at the University or Montana - Missoula. That same year he accepted a position with Alberta Health Services - Cancer Care as the Community Cancer Network Pharmacy Coordinator. He has also enjoyed the opportunity to work on the executive of the Canadian Association of Pharmacy in Oncology and to assist in the organization of several NOPS meetings. Over the past few years Lee helped launch an exciting new telepharmacy initiative in the Community Cancer Network that allows patients to remain in their own communities for cancer treatments even when a pharmacist is not on site to oversee preparation of intravenous chemotherapy. With the expansion of the Lethbridge Cancer Center Lee is now serving as Pharmacy Operations Coordinator in Lethbridge.

Dana is currently the Acting Regional Director for Northern Health Pharmacy Services. Prior to this appointment, she held a cross appointment with the Regional Cancer Care Clinic in Prince George as a Clinical Pharmacy Specialist and as an Assistant Professor with the Medical Program, working with undergraduate medical students and family practice residents. Dana's clinical interests focus on supportive care and symptom management.

Dana is currently the President of CAPhO, soon to be Past President, and has enjoyed the opportunity to work with such a talented group of professionals as are found in oncology practice. At home, she is the proud mom of 2-year old twin daughters, Kaitlyn and Emily.

SYNOPSIS

IMPLEMENTING TELEPHARMACY IN A COMMUNITY CANCER NETWORK – THE ALBERTA + BC EXPERIENCE

Saturday, October 24th, 14:00-15:20

Northern Health services a population of about 300,000, approximately 7% of the total population of BC with a geographic region almost two-thirds the total area of BC. Telehealth provides one facet for bridging the distance gap and preventing unnecessary travel.

In September 2008, Northern Health Pharmacy Services began using telehealth to assist with chemotherapy preparation in locales equipped to deliver chemotherapy, but without a pharmacist on site to perform checks of the chemotherapy preparations. Currently, seven sites are set up to participate in and contribute to telehealth oncology pharmacy services in the north.

Alberta Health Services (AHS) - Cancer Care established a telepharmacy program which in addition to loaning telehealth equipment to community cancer cancers without a pharmacist, has formalized telepharmacy policies, procedures and training and certification. Using this program a pharmacist at a coordinating center performs the clinical review of patient orders and oversees the preparation of intravenous chemotherapy in real- time by a pharmacy technician at a remote center. A portion of this joint presentation will give an overview of the Alberta experience and a summary of the results of the first 8 months of use.

Learning Objectives:
At the end of this presentation, participants will be able to:
1. describe the telehealth oncology services provided by Northern Health and Alberta Health Services as examples of telepharmacy services.
2. describe the strengths and deficiencies in telehealth systems and equipment.
3. describe the resources required to successfully implement and manage a telehealth oncology pharmacy service.

Implementing Telepharmacy in a Community Cancer Network: the Alberta Experience

Gordon HL,
Hoeber M,
Schneider A

Presentation Outline

- The Need
- Proving the concept
- Laying the ground work
- Implementation
- Results
- Learnings

The Need for Telepharmacy

- CCN 11 CCCs, 4 ACCs, 2 TCC
- Objective – "closer to home"
- Pharmacist shortage in remote locations
- Pharmacist must check in-hood prep.
- Difficulty recruiting, burn-out

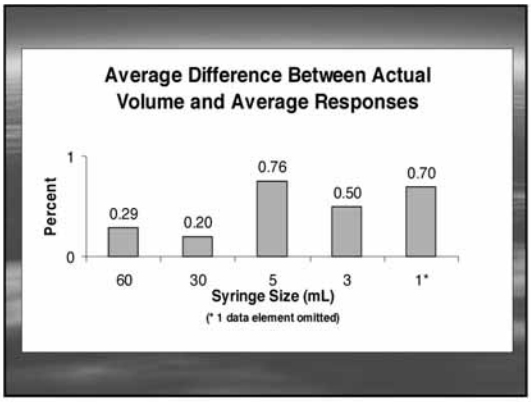
Community Cancer Network

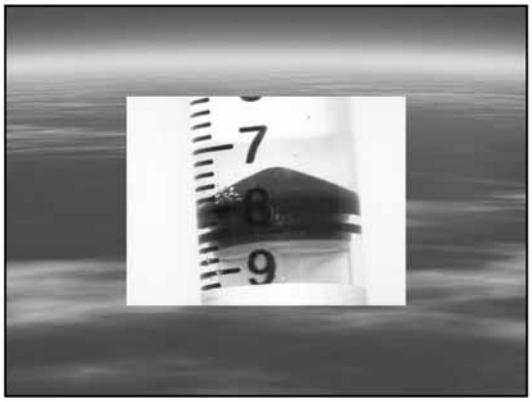
Telepharmacy Initiative

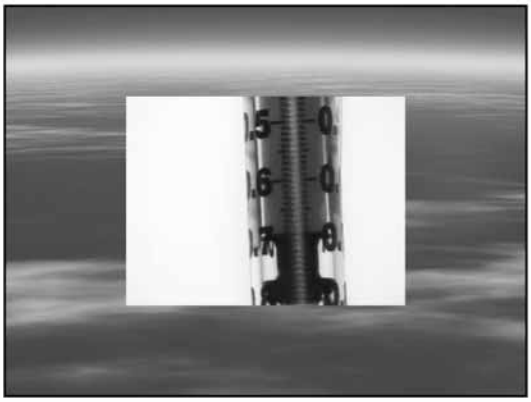
- Equipment kept at a central site
- Remote site pairs with a coordinating site
- Equipment delivered to sites
- Clinical review by coordinating pharmacist
- Real-time in-hood verification
- Return equipment

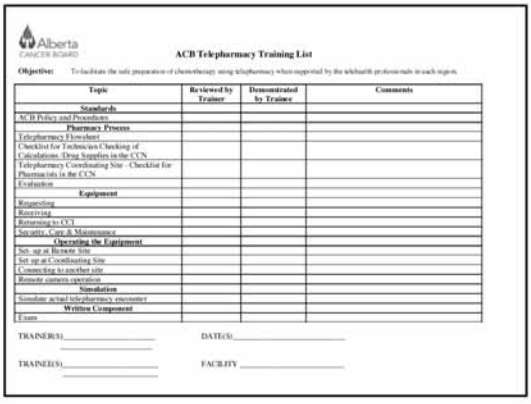
Proving the Concept

- Telepharmacy experience Dakota, B.C., Northern Communities
- Studied the reliability of in-hood syringe readings via telepharmacy
  - 5 each of 60, 30, 10, 5, 1mL Syringes
  - 19 participants at 8 remote locations









Alberta Cancer Board

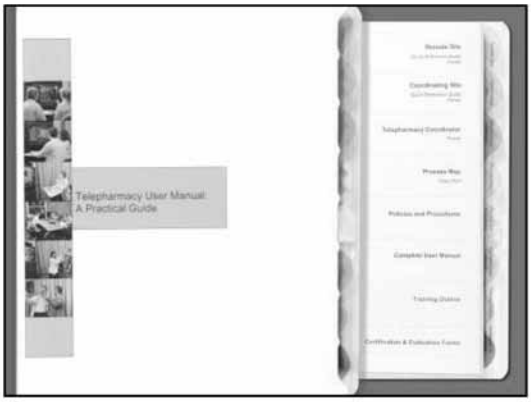
ACB Telepharmacy Training List

Objective: To facilitate the safe preparation of chemotherapy using telepharmacy when supported by the telehealth professionals in each region.

Topic	Reviewed by Trainer	Demonstrated by Trainee	Comments
Standards			
ACB Policy and Procedures			
Pharmacy Process			
Telepharmacy Flowsheet			
Checklist for Technician Checking of Calculations, Drug Supplies in the CCN			
Telepharmacy Coordinating Site - Checklist for Pharmacists in the CCN			
Evaluation			
Equipment			
Requesting			
Receiving			
Returning to CCI			
Security, Care & Maintenance			
Operating the Equipment			
Set- up at Remote Site			
Set up at Coordinating Site			
Connecting to another site			
Remote camera operation			
Simulation			
Simulate actual telepharmacy encounter			
Written Component			
Exams			

TRAINER(S)_____ DATE(S)_____

TRAINEE(S)_____ FACILITY _____

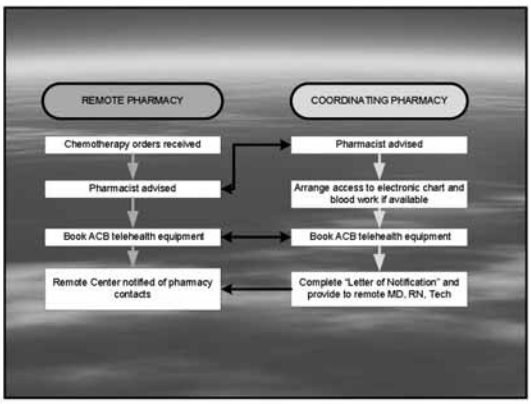


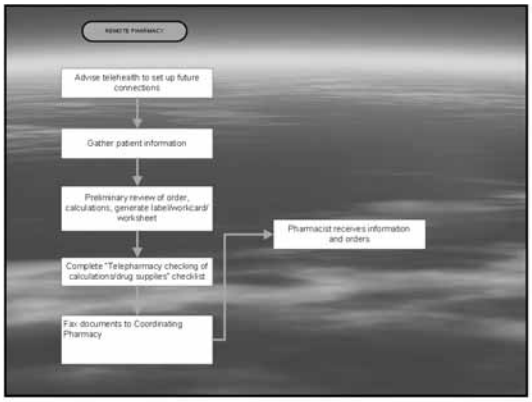
Training Summary

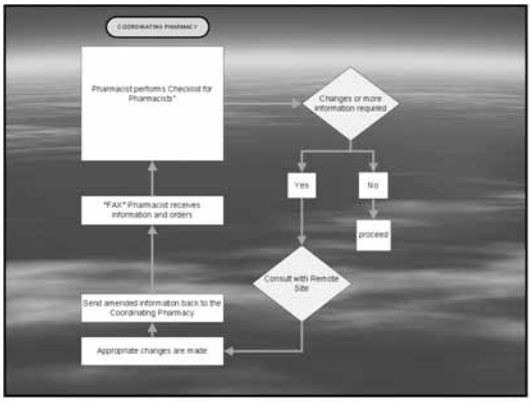
- Operational sites 6 (remote + coordinating)
- Telepharmacy trained staff 15 (+ partial)

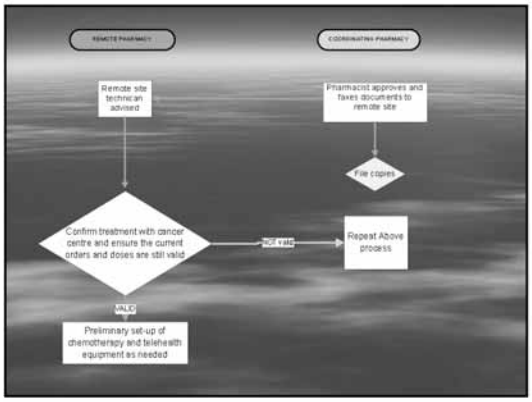
Implementation

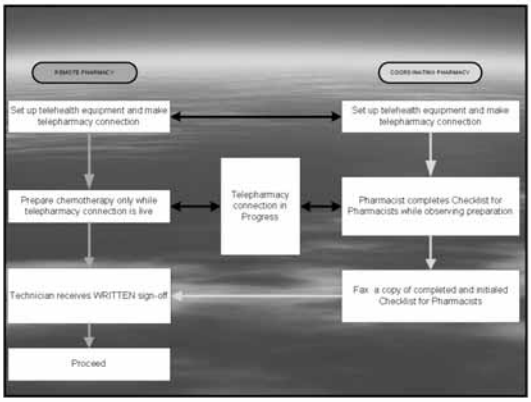
- To establish a program and loan equipment that will enable remote pharmacies to continue to prepare intra-venous chemotherapy in real time under the care of a pharmacist at a coordinating center when a pharmacist is not physically present.
- The coordinating site pharmacist also provides the clinical review of the orders that would normally be done by a pharmacist on site

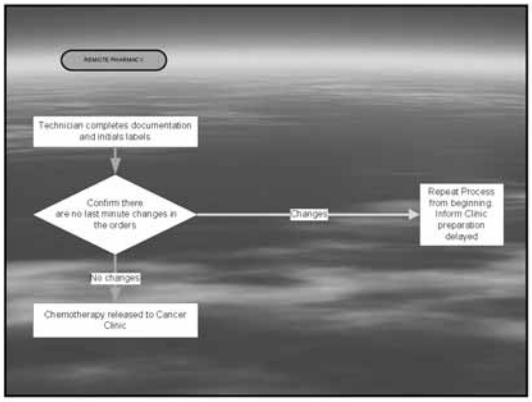












Alberta CANCER BOARD

Telepharmacy Letter of Notification

Due to the lack of availability of a pharmacist at _____ (Remote Site), an offsite pharmacist based at _____ (Coordinating Site) is remotely supervising the drug distribution and clinical pharmacy services offered at this site for the duration noted below.

This document will be completed and forwarded to the remote site for distribution to administration, physicians and nursing staff.

Pharmacist name (Print) _____ Signature _____

College of Pharmacists of Alberta license number _____

Telephone number of supervising site _____

Fax number of supervising site _____

Date(s) of coverage _____ to _____

Please note that this pharmacist may be contacting you for clinical information about patients under your care. Documentation regarding order clarification or suggested therapy changes will be forwarded to the individual patient charts when appropriate.

2009 | LEE GORDON PRESENTATION HANDOUTS

Alberta Cancer Board

Supplementary Information Required by Pharmacists Processing Telepharmacy Orders in the CCN

A Brief of File may be sent in lieu of this form. Brief of File Sent:

Patient:_____ ACB Number:_____ Dr._____

Site:_____ Date:_____

Person completing this form: _____ Telephone Number: _____

Parameter		Pending
Signed Orders	Is the data modified? – Y / N	
Patient Information	Diagnosis: Age: Consultations: Relevant Progress notes:	
	Ht: ____ cm Wt: ____ kg Date: ____ BSA:	
Other Medications the patient is taking Antiemetics:		
Allergies / Contraindications		
Laboratory Values (as required) See order sheet >	WBC: ____ / ANC: ____ Hgb: ____ Plts: ____ Date of blood work: ____ MUGA: ____ % Date of scan: ____ Serum Creatinine: ____ Date of lab. work: ____ other:	
Previous Cycle	N/A Was the previous dose modified? Y/N	
Other Pertinent Notes		

Alberta Cancer Board

Telepharmacy Remote Site Technician Checking of Calculations/Drug Supplies

Technician Date Location

Patient Clinic Number

IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:

May affix labels in lieu of above table

Technician Checking of Calculations/Drug Supplies (Initial steps and retain in records)

	Checking calculations (order/worksheet/worksheet):
	Obtain most recent signed physician orders – FAX copy to checking pharmacist
	Check that following information on label/worksheet/worksheet matches original physician's order: - patient name, ACB number, - drug name & dose - route of administration - diluent type and volume (where applicable) - number of doses to prepare
	Confirm labels/worksheet/worksheet with pharmacist at checking site.
	Check that the dose volume calculation is correct, documented and initialed
	Check that date and time of preparation is appropriate for administration time.
	Initial order/label/worksheet/worksheet indicating all of the above have been checked
	Gathering supplies and information to prepare the drug
	Ensure that correct order/worksheet/worksheet, labels and prep information are available for tech preparing drug
	Check that appropriate drug and solution supplies are selected: - correct drug - correct concentration - sufficient quantity - sufficient expiry date - correct diluent type and volume (where applicable) - UV bag for light sensitive drugs available (where applicable)
	Ensure open tail preparation supplies are utilized (where applicable) (ex. Non-PVC bag, pump)

Alberta Cancer Board

Telepharmacy Coordinating Site Checklist for Pharmacists in the CCN

Pharmacist_____ Title_____ Location_____

Patient_____ Clinic Number_____

IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:
IV Chemo Drug	Dose	Rx No:

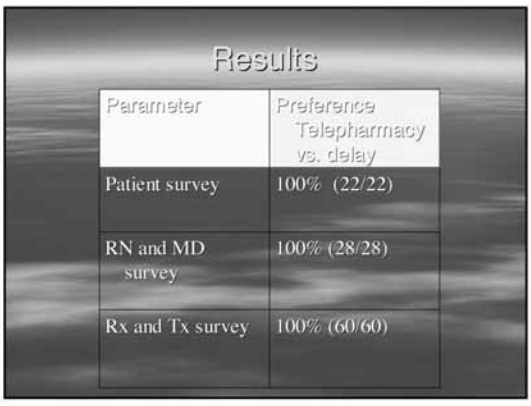
May affix labels in lieu of above table

Order Review (Initial steps and retain in pharmacy records for audit)

	Collect most recent signed order (Faxed from Telepharmacy Remote site)
	Collect pertinent **patient information** (history, diagnosis, progress notes…)
	Check for correct **indication/diagnosis** for protocol
	Check for allergy/disease **contraindications or precautions required**
	Check for drug/disease/food **interactions** (consult medication profile)
	Assess patient **laboratory values** (blood work, ECG/Echo scans…)
	Double check calculations of **patient parameters** (ht, wt, BSA…)
	Check for correct **drug(s)** (ht, ethnicity…)
	Check for correct **dose** for patient (calculate doses independently against physician's orders, ensure correct dosage adjustments, ensure safe dose)
	Check for correct **intervals/cycle** (timing of appointment) and **route**
	Check for correct method of **drug delivery** (compatibility, concentration, PVC)
	Ensure appropriate **supportive care therapy** has been ordered: chemo and drug
	Verify any deviation(s) are intentional (check against previous dose)
	Continue on-treatment pertinent notes/comments

Pharmacist Checking of Drug Preparation (Initial and retain in pharmacy records)

	Examine labels/worksheet/worksheet prepared by technician
	Check reconstitution volume and diluent prior to injection into drug vial
	Check drug, volume and solution prior to injection into solution container
	Check that product is labeled before or upon removal from BSC
	Check final label and preparation against **order**
	Complete documentation on order/worksheet/worksheet and label as per site procedures: - ***Important. This designates that the pharmacist has completed a final check of the entire order – ie' correct drug the correct infusion solution by the correct route to the correct patient for the correct administration time and any accompanying oral medications have been dispensed.***



Results

Times deployed	3
Locations	2 remote sites
Duration	1) Jan. 08 – Feb. 08 2) Feb. 08 – Sept. + 3) June 08 – Sept. +
Travel saved (Jan – Sept)	44,580 km

Learnings

Issue	Learning
Red Solutions – document camera	Some did not use document camera
Missed late order changes	Confirm no changes with clinic staff day of prep and at delivery
Expired mini-bag pulled for use	Coordinating RX sees exp. date
Telehealth drop in ceiling	Share specific needs

Learnings

Issue	Learning
Unable to open shipping cases	Prior communication of lock combination req'd
Variable clean room size – tripod set up	Counter works v. well
Configuring equip. for local use	Better to be done locally
Simulation experience	Better to run parallel with actual chemo prep

Learnings

Issue	Learning
Location of fax machine outside pharmacy	Require fax machine in pharmacy
Telehealth Connections	Sites preferred to dial-up themselves
Clumsy remote camera operation	Become very proficient
Dialogue between sites	Tx & Rx should have active conversation during process

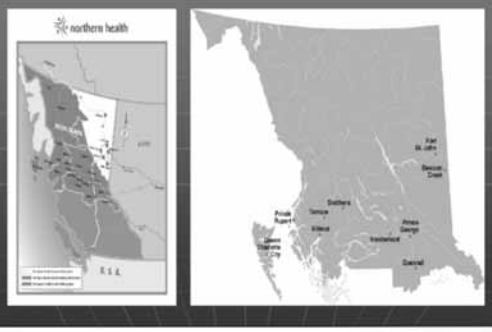
Learnings

Issue	Learning
Missing blood work	May be available on host hospital computer or provincial Wellnet
Missing pt. information	Arrange for coordinating site to access pt information on ACB computer (ARIA)

Telepharmacy Oncology Experiences in Northern Health, BC

Dana Cole, BScPharm, ACPR, PharmD
Acting Regional Director, Pharmacy Services, Northern Health

Northern Health – The Need



Pharmacist Shortage

- 9 hospitals with Pharmacist positions
- 10 hospitals where chemotherapy is administered
- 3 hospitals had NO Pharmacist on site
- 2 hospitals had 2/3 of regular staffing levels
- May have resulted in 6-8 hours of round trip travel for patients to next closest facility

Expertise Needed

- Complexity of oncology treatments
- Sole-charge pharmacists new to hospital and oncology practice
- Workload demands from general areas
- Pharmacist dedicated to oncology services in Prince George

Northern Health - Process

- Telehealth equipment pre-existed in most sites
- Established processes for document sharing and verification of orders and worksheets
- "Learn as we go" approach to equipment orientation
- Allows product to be made on-site and checked via video-link

Learning – Northern Health

- Immediately – camera quality varied
  - Upgrades completed within 3-4 months
- Standardization needed in format of labels
- Changes needed in scheduling for some clinics; receiving orders and bloodwork by deadlines

Research on the Experience

- Sarah deLeeuw, Trina Fyfe, Dana Cole
  - Collaboration to examine the experiences of health professionals and patients involved in telepharmacy oncology services
  - 2 medical students (Ashley Bakker and Jessica Wilford) hired for the summer to conduct lit review and focussed interviews
  - Interviewed 37 individuals from across NH

	Number of IV Preps over 10 Months		# PO Preps over 10 Months		Total Preps Over 10 Months	
	Total IV	Ave IV Per Month	Total PO	Ave PO per Month	Total Preps	Ave Preps per Month
Terrace	1085	108.5	239	23.9	1324	132.4
Kitimat	192	19.2	47	4.7	239	23.9
Smithers	453	45.3	149	14.9	602	60.2
Vanderhoof	256	25.6	48	4.8	304	30.4
Prince Rupert	160	16	58	5.8	218	21.8
Fort St. John	101	10.1	28	2.8	129	12.9
Dawson Creek	24	2.4	3	0.3	27	2.7
Overall	2271	227.1	572	57.2	2843	284.3

Three Month Capture of Video Usage April, May, June 2009

	Fort St. John	Prince Rupert	Smithers	Terrace	Vanderhoof	OVERALL
Total number of calls	22	70	25	155	46	318
Average call length (min:sec)	4:16	3:58	2:44	7:05	4:57	5:33
Total Length (hours:min)	1:33	4:37	1:08	18:18	3:47	29:25

Common themes from interviews

- Time consuming for techs and pharmacists,
  - PG is responsible for several sites
- Faxing process is cumbersome and leads to time delays
- Important to have pharmacist with more experience and expertise in oncology involved.
  - Even when pharmacist on-site is doing final check,
  - Pharmacist in PG is reviewing initial order for appropriateness.

Common Themes from Interviews

- Quality of equipment
- Has required scheduling changes for many sites and different processes to allow orders to be written in advance of the patient's arrival that morning for chemo.
- Positive spin offs of the telepharmacy delays have been spurring improvements in clinic process.
- Helpful to have a face-to-face meeting initially to gain some rapport with the person

Summary

- Allowed chemotherapy to continue for patients
- Private location is needed for consultations between pharmacist and patient
- Should not be used to replace the need for on-site person-to-person contact unless necessary
  - However, contact to expertise valuable

2009 | NOPS SPEAKER

TIM FLEMING
President and CEO, Canadian Association of Pharmacy Technicians, Mississauga, ON

BIOGRAPHY

Tim Fleming is the President & CEO of the Canadian Association of Pharmacy Technicians (CAPT). He is currently employed at the Leslie Dan Faculty of Pharmacy at the University of Toronto as the Professional Practice Lab Coordinator for the International Pharmacy Graduate Program, and at the new School of Pharmacy at the University of Waterloo. Prior to this, he taught the Community Dispensing Practices Course and Compounding Labs in the Pharmacy Technician Program at Centennial College in Toronto. Tim was also the Pharmacy Innovation Coordinator for Pharmasave Ontario; responsible for pharmacy team training, dispensing software training and support and professional services development and implementation in member pharmacies across Ontario. He developed and conducted numerous training seminars and workshops for member pharmacy teams.

Tim maintains active involvement with numerous pharmacy related projects and initiatives across the country. Tim has also served on the Membership Services Committee of the Ontario Pharmacists Association, has been a Director of the Board of AIDS Niagara and was a founding member of the Niagara Branch Chapter of CAPT.

In his spare time, if not in a gym, Tim can be found walking, hiking, roller-blading or biking with his daughter and their ever-present cameras in tow.

UPDATE ON THE DEVELOPMENTS OF TECHNICIAN REGULATION THROUGHOUT THE COUNTRY

Saturday, October 24th, 15:35-16:35

Pharmacy Technicians:
To Regulate or Not To Regulate?

Why Regulate?

- Expanding the role of the pharmacist
- Pharmacist Shortages
- Cost of status quo

History

- 1998 – OCP decision to pursue regulation of pharmacy technicians
- PTWG established to explore viability and then lead the process
- Pan-Canadian consultations, NAPRA, PEBC, CCAPP etc brought in
- The Health Systems Improvement Act, 2007 (Bill 171) was passed by the Ontario Legislature on June 4, 2007. This Act, which amends the Regulated Health Professions Act, the Pharmacy Act and Drug and Pharmacy Regulation Act as well as many other health profession acts, enables the regulation of pharmacy technicians.
- August 2009 First piloting of PEBC exam

The NEW RPhT

- Receive oral prescription orders via telephone
- Confirm accuracy and completeness of prepared pharmaceutical products
- Transfer prescriptions to, or receive from, other pharmacies
- Sign off on technical accuracy of filled prescriptions

Counselling?

- *"...Shall only counsel a patient, directly or indirectly, with respect to a drug or medical condition, when the counselling does not require therapeutic knowledge or clinical analysis or assessment..."*
- *This is one of the limitations being proposed with regards to patient counselling in Ontario*

National Support

- *Blueprint for Pharmacy creates a new vision* for pharmacists and pharmacy technicians, including:
  - protecting the safety, security and integrity of the drug distribution system through the enhanced role of regulated pharmacy technicians and greater automation of dispensing...
- *The Blueprint for Pharmacy is a multi-phased, strategic initiative to develop a vision and an action plan for the future of pharmacy in Canada.*

National Support

- The Pharmacy Examining Board of Canada has piloted a national entry-to-practice Pharmacy Technician Qualifying Examination for the assessment and certification of the competence of Pharmacy Technicians. The Pharmacy Technician Qualifying Examination consists of two parts: a written multiple choice question examination (MCQ) and a performance-based examination, called an Objective Structured Performance Examination (OSPE)
- The Pharmacy Examining Board of Canada: *Providing Excellence in Certification for the Pharmacy Profession*

National Support

- CCAPP has undertaken the responsibility of accrediting Pharmacy Technician education programmes to ensure that graduates will be fully prepared to practise in the new regulated role
- The mission of The Canadian Council for Accreditation of Pharmacy Programs is to evaluate the quality of pharmacy professional degree programs in Canadian universities and to promote continued improvement of such programs.

National Support

- CCCEP & CAPT have partnered to accredit continuing professional development offerings for Pharmacy Technicians
- The Canadian Council on Continuing Education in Pharmacy (CCCEP) is a national organization established to accredit continuing pharmacy education programs intended to be delivered to pharmacy professionals from more than one province or nationally.

National Support

- CPTEA has developed learning outcomes documents outlining the educational requirement for graduates of their programmes to be ready to practise in the regulated role
- The Canadian Pharmacy Technician Educators Association (CPTEA) is the national organization of Pharmacy Technician Educators established to lead, advance, support, and promote excellence in Pharmacy Technician education.

National Frameworks

- PEBC – National Entry to Practice Exam
- CCAPP – National Accreditation of Pharmacy Technician Education Programmes
- NAPRA – National Competency Profile Model in Place – SOP Model under development
- CPTEA - National Learning Outcomes Document

Ontario Transition Model

The Process for Registration as a Pharmacy Technician

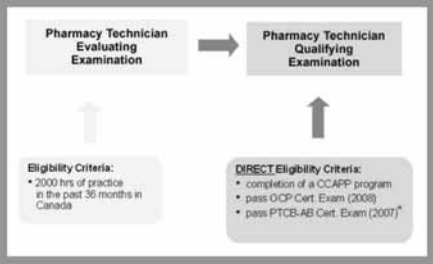
In the Profession (Includes Career or Community College Programs and On-the-Job Training)	Entering the Profession
1 PEBC Evaluation Exam (previously OCP certification exam)	1 Graduation from a CCAPP Accredited Pharmacy Technician Education Program
2 Bridging Education Program	2 Structured practical training

3 PEBC qualifying exam (written and practical)

4 OCP Jurisprudence Exam

5 Registration with OCP

National Transition Model



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The Not-So-Distant Future

- In Ontario, by 2010 technicians will hold licences enabling them to:
  - provide the final check on prescriptions
    - AKA Tech-check-tech
  - Receive verbal orders from prescribers
  - Receive and transfer prescription authorisations
  - Aug 2009 - +150 technicians sat first PEBC exam

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The Not-So-Distant Future

- Other provinces are already stating that they expect to adopt them same national models
- Moving Forward and Pharmacy Blueprint both recommend pushing role of pharmacist and technician forward
- Pharmacist role already evolving/expanding in some jurisdictions

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The WIIFM Factor

- Pharmacy Efficiency
- Recruitment and retention strategy
- Empowered and happy staff
- Everyone practising to their scope

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2009 | NOPS SPEAKER

TEJINDER BAINS
Children's Hospital of Eastern Ontario, Ottawa, ON

GENEVIÉVE GOULET
Pediatric Oncology Pharmacist, Children's Hospital of Eastern Ontario, Ottawa, ON)

BIOGRAPHY:

Tejinder Bains graduated with a Bachelor of Science in Pharmacy from the University of British Columbia in 1992. She then completed a pediatric pharmacy residency at BC's Children's Hospital in 1992-1993. She joined the pharmacy team at CHEO in 1993 where she has worked in general pediatrics, neonatal unit, HIV clinic as well as the emergency department. She joined the oncology pharmacy team in 2003 and recently became the oncology pharmacy team leader. TJ is also involved with CHEO's research ethics board in reviewing pediatric oncology protocols. She has worked with POGO (Pediatric Oncology Group of Ontario) on various pediatric oncology initiatives.

Geneviève Goulet completed a Bachelor's degree in Science with specialization in biopharmaceutical sciences from University of Ottawa in 2003 followed by a Bachelor's in Pharmacy at the Université Laval in Québec City. Since graduating in 2006 Genevieve has been working as a pediatric pharmacist at the CHEO. After a brief experience in general pediatrics, she joined the CHEO oncology pharmacy team 2 years ago.

SYNOPSIS:

CHALLENGES IN PEDIATRIC ONCOLOGY *Saturday, October 24th, 15:35-16:35*

Pediatric oncology pharmacists face unique challenges that their adult colleagues may not encounter. Some of these challenges include age specific formulations, lack of evidence based literature & off label use of chemotherapy, the constant 'pressure' for cure, adolescent psychosocial issues, management of chemotherapy late effects, and transition to adult cancer centers. Although the role of the pharmacist in pediatric oncology is complex and challenging, it is also extremely rewarding.

Objectives:
1. discuss specific challenges faced by the young (0-10 year old) oncology patient
2. discuss specific challenges faced by the adolescent and young adult oncology patient
3. summarize each challenge with a patient case presentation
4. highlight the role of the oncology pharmacist in each of these challenges

Challenges in Pediatric Oncology

Tejinder Bains, B.Sc.(Pharm), ACPR
Geneviève Goulet, B.Sc, B.Pharm

National Oncology Pharmacy Symposium
"Oncology Safety – Not an Oxymoron"
October 23-25, 2009, Fairmont Château Laurier, Ottawa, ON

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Centre hospitalier pour enfants de l'est de l'Ontario

Conflict of interest

- We have no conflict of interest to declare

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Outline

- Childhood cancer statistics
- Very Young (0-10 yr)
  - Challenges of taking oral medication !
- Adolescents
- Transition to adult care

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Cancer in Children

- Average 850 children are diagnosed with cancer in Canada each year
  - About 135 children are expected to die of their disease
- Incidence is higher in first 5 years of life
- Current 5 year EFS is 82%
  - compared to 71% in the late 1980's
- 80 % enrolled in clinical trials or treated according to registered protocol established by a clinical trial
  - CHEO - Children's Oncology Group

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Canadian Cancer statistics at a glance: cancer in children
CMAJ • FEBRUARY 17, 2009 • 180(4)

Cancer in Children

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Canadian Cancer statistics at a glance: cancer in children
CMAJ • FEBRUARY 17, 2009 • 180(4)

Pediatric dosage

General pediatrics
- Most agents
  - Weight based dosing: mg/kg (max = adult dosing)

Chemotherapy
- Infants (< 1 yr or < 12-30kg)
  - Weight based dosing: mg/kg
- Toddlers to adolescents
  - Body surface area dosing (mg/m^2)
  - Some exceptions: Weight based dosing

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Formulation

The Ideal Pediatric formulation

- Minimal dosage and frequency
- One dosage form to fit all or a full range
- Minimal impact on lifestyle
- Non-toxic excipients
- Good taste
- Convenient, easy, reliable administration
- Easily produced, elegant, stable, cheap and commercially viable

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Liquid formulation

Challenges

- Concentration
  - Some doses require large volumes
- Physical, chemical and microbiological stability
  - Buffering agents, antioxidants and preservatives
- Mask unpleasant taste
  - With sweeteners and flavours
- Excipients suitable for pediatric patients
  - Choice and concentration of excipients

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Tablet-Capsule formulation

Advantage

- Easier and cheaper to develop, manufacture, transport, store and dispense

Risks

- Choking
- Inhalation

Generally …

- Children of school age
  - According to size/shape tablet
  - Patient related factors
    - maturity, pass experience
    - number of Rx to take,
    - preference for oral (better tasting) liquid

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Case scenario

Brian is a 5 year-old boy diagnosed with standard risk Acute Lymphoblastic leukemia.

- He does not like to take medication.
- He received antibiotic in the past (good tasting ones).
- He cannot swallow tablets or capsules.
- His parents are incapable of convincing him to take his medication !

Prior to discharge home

- Usually between day 8-15 of induction
- Brian must learn how to take his medication !!!!

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Case scenario

His current treatment includes:

- Ht:115cm Wt: 20kg BSA: 0.80m^2
  - Allopurinol 80 mg (4mg/kg) PO TID
  - Dexamethasone 2.5 mg (3 mg/m^2) PO BID (for total 28 days)
  - Septra 6 mL (2.5 mg/kg) PO BID qFri-Sat-Sun
  - Zofran 4 mg (4 mg for 15-30 kg) PO q8hr prn (max 3 doses/24h)
  - Gravol 20 mg (1 mg/kg) PO q4-6h prn
  - Lax-a-day (PEG3350) 17 g (1 g/kg max:17g)PO daily prn
  - Tylenol 300 mg (15 mg/kg/dose) q4h prn (for pain)

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Case scenario – Patient related challenges

- New onset of serious illness
- Multiple invasive treatment
  - IV access (traumatising, needles)
  - Intrathecal therapy (conscious sedation)
  - Central line insertion (general anesthetic)
- Most oral medication dispensed in syringes
- Lack/lost of control

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Case scenario – Drug specific challenges

Dexamethasone (suspension and tablets)
- Taste bad !!!
- Receptor saturation required for maximal efficacy
- Duration treatment = 28 days
- Young children are quite sensitive to mood/behaviour side effects of steroids !

Septra
- Concentration/volume (8 mg/mL)
- Taste: many children do not like taste

Zofran
- Concentration/volume (4mg/5mL)
- Good taste

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For children like Brian

Accepting to take oral medication often requires a multidisciplinary team effort !
- Parents
- Nurses
- Child-life specialist
- Molly Penny (CHEO clown)
- Pharmacists
- Physicians
- Occupational therapist

Molly Penny
CHEO Clown

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How do pharmacist help !

Pharmacist are the medication specialist !
- Choosing the appropriate formulation
  - Liquid vs tablets or capsules
- Suggesting methods of administration
  - In syringe vs medicine cup
  - Masking bad taste
  - Opening capsules
  - Dissolving tablets
- Encourage and support parents
- Positive reward system

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For children like Brian

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Tips for pediatric patients

Liquid formulation
- Use appropriate measuring device
  - Oral syringe
  - Medicine cup
  - Dropper
- Label syringe to correct quantity to be administered
- Mixing instructions liquid with appropriate liquid or food.
- Medication calendar if multiple, complex administration instruction or dosage

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Tips for pediatric patients

Tablet-Capsule formulation
- Crush tablet
  - Mix in food
- Open capsule
  - Sprinkle content

Not reasonable option with cytotoxic medication
- Use gloves and mask
- Pill crusher
- Dissolve'n'dose

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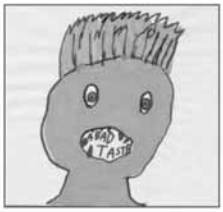
Tips for masking bad taste

Cold
- Refrigerate liquid medicine (if stable)
- Numb taste buds
  - Ice, Ice cream, Popsicle

Mix with food (if compatible)
- Small amount, strong tasting
  - Apple sauce, jam
  - Eat strong tasting food prior to taking dose (spicy Doritos)

Masque bad/bitter taste
- Simple syrup, flavouring agent
  - Chocolate (quick syrup)

Empty gel capsules
- Great for prednisone/dexamethasone



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How To Give:

Capsule:

❑ Swallow the capsule whole.

or

❑ Open the capsule and mix the powder with a small amount (1 to 2 teaspoons) of food such as apple sauce or mashed potatoes. Give immediately.

or

❑ Open capsule and pour the powder into a small cup. Add 5 to 10 ml (1 to 2 teaspoons) of cool tap water. Stir and give immediately.

Note:
Check that the capsule is completely empty before throwing it out.

Prescription & Nonprescription Drugs or Natural Health Products:

- **Many medicines and natural health products should not be taken with prescription medicines.** Before any of these products are taken, let your pharmacist, doctor or nurse know.
- Acetaminophen (Atasol®, Tempra®, Tylenol®) may be given safely with most prescription medicines.

CHEO

Bad tasting Medicine

CHEO Pharmacy Drug Information Sheet

THE CHILDREN'S HOSPITAL OF EASTERN ONTARIO

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Some medicines can be given with food to improve their taste.

- **Dull** the taste buds with a popsicle or concentrated frozen juice **before** giving medicine.
- Give medicine with **high fat foods** such as ice cream or high fat yogurt and cheese desserts such as Minigo®.
- **Coat** the mouth with strong-flavoured food such as grape jelly, chocolate syrup, maple syrup or peanut butter on toast before giving medicine.
- **Mix** medicine with milk, chocolate milk, ice cream, pudding, maple syrup, fruit-flavoured drinks such as Tang® and Kool-Aid®, or commercial supplements such as Pediasure®.
- Follow medicine with a **strong-flavoured food** such as cheese, chocolate syrup, or fruit-flavoured drinks such as grape drink, Tang® and Kool-Aid.

Use foods that have a strong flavour before and after giving a bad tasting medicine.

- **Avoid** the taste buds and coughing by emptying oral syringes slowly and directing the liquid towards the side of the mouth. Older children may prefer using a medicine cup with a drinking straw.
- Adolescents may prefer **chewing** a strong-flavoured sugar-free chewing gum after medicine.
- If given by g-tube, **flush** the g-tube with milk or feeds before and after giving oral liquid medicine.

Caution:
A young child may refuse an important food (like milk or infant formula) after it was mixed with a bad tasting medicine.

How To Give:

Liquid:

❑ Measure the dose with an oral medicine syringe.

Tablet:

❑ Some tablets may be chewed, split in half, or swallowed whole.

or

❑ Some tablets may be crushed and mixed with a small amount (1 to 2 teaspoons) of mashed potatoes, pudding, or any other food. Mix and give immediately.

or

❑ Some tablets can be crushed, and placed in a small cup. Mix the crushed tablet with a small amount (1 to 2 teaspoons) of cool tap water, milk, chocolate milk, or infant formula. Stir and give immediately.

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Dissolve & Dose® Container

CHEO Pharmacy Drug Information Sheet

THE CHILDREN'S HOSPITAL OF EASTERN ONTARIO

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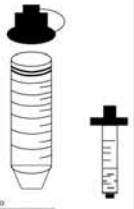
Dissolve & Dose® Container

Note:
- The blue cap is designed to fit oral syringes.
- To clean the Dissolve and Dose® container, rinse with warm tap water after each use.



How To Give:

Unscrew the blue cap off the measuring test tube (Dissolve and Dose® container).

❶Place (1/4, 1/2, one) _____ tablet in the measuring test tube.

Or

❶Place the contents of (1/2, one) _____ capsule in the measuring test tube. Discard empty capsule.

Then

❷Add _____mL of cool tap water to make a _____ mg/ml suspension.

❸Screw the blue cap back on the test tube.

❹Shake for _____ (2 to 5) minutes.

❺The tablet coating or capsule powder may not dissolve. It will look like a fine white powder floating through-out the liquid.

❻Using an oral syringe, draw up _____mL = _____ mg
Give by mouth within 20 minutes.

- *Discard any unused liquid.*

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Oral Chemotherapy Examples

Suspension
- Mercaptopurine – unstable
- Currently CHEO pharmacy does not compound any antineoplastic liquid formulation !

Dissolve and dose
- PO Mercaptopurine/methotrexate

Injectable given PO
- Irinotecan, etoposide

Chewing or opening capsules
- Accutane, ATRA

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ADVL0414: A Phase I Study of Temozolomide, Oral Irinotecan, and Vincristine for Children with Refractory Solid Tumors

Oral Irinotecan
- Syringes prepared by hospital pharmacy
- Mix in CranGrape, cranapple or cranberry juice
  - 5-10 mL: larger volume = better taste masking
  - **DO NOT** mix in orange juice, apple juice, milk or soda.
  - Use a disposable cup. Discard after dose.
- Must drink **ALL** of the juice mixed with irinotecan
- Stable 21 days, refrigerated
- Zofran, 30-60 min prior to dose, may be helpful

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Accutane in Neuroblastoma

Isotretinoin (13-cis-retinoic acid, Accutane)
- 160 mg/m2/day (5.33 mg/kg/day if ≤ 12 kg) PO divided BID x 14 days. Round up to the nearest 10 mg.
- Patient BSA 0.68 m² = 60 mg qAM and 50 mg qPM

Capsules (10 or 40 mg)
- Swallow entire capsules
  - Feasible and to be encouraged
- Chew and swallow with high fat food (best absorption)
- Empty capsule into a high fat food
  - Ice cream or peanut butter
  - Use syringe/needle or pierce capsule and squeeze out liquid
  - Give immediately (max 1 hour)

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Adolescents and Young Adults

- Incidence rate of cancer in young adults has increased over the last 30 years
- Reduced improvement in survival rates
- Reduced participation on clinical trials
- Cancer is leading cause of death from disease in adolescents aged 15-19 years

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Adolescent Challenges

- Adherence
- Body image
- Transition to adult centers
- Aftercare Program
- Palliative care
- Psychosocial issues
- Dose intensity
- Adult cancers
- Mood disorders
- Obesity
- Drug Coverage

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Adherence

- Not well studied in adolescents with cancer
- Increasing development of oral cancer therapies
- Undesirable consequences of non-adherence
  - Increased costs
  - Higher hospitalization rates
  - Mortality and morbidity due to relapse
  - Problems in the validity of data concerning clinical trials of medication treatment

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Model of Adherence

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Patient adherence and persistence with oral anticancer treatment
Kathryn Ruddy, Erica Mayer and Ann Partridge
CA Cancer J Clin 2009;59:56-66

Adherence to Oral Chemotherapy

TABLE 1. Studies of Pediatric Adherence to Oral Antineoplastic Agents

CANCER	NO.	ORAL THERAPY	ADHERENCE MEASURE	ADHERENCE RATE	TIME PERIOD	STUDY
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Not stated	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	50%	Not stated	[illegible]
ALL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
ALL	[illegible]	[illegible]	[illegible]	[illegible]	Not stated	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Not stated	[illegible]

NOTE: [illegible]

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Patient adherence and persistence with oral anticancer treatment
Kathryn Ruddy, Erica Mayer and Ann Partridge
CA Cancer J Clin 2009;59:56-66

Adherence to Mercaptopurine

Table 1. Measurement of 6MP Adherence in Adolescents With Acute Lymphoblastic Leukemia

Author	Measure	Sample	Results
[illegible]	[illegible]	[illegible]	[illegible]

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Parental Involvement

Table 3. Participant Adherence and Parental Involvement

Sex	Age at Diagnosis	Age at Interview	Optimal Adherence	Description of Parental Involvement
F	11-12 years	18 years	Y	Mom in charge of everything
F	12 years	20 years	Y	Mixed—mom made up pillbox, up to her to take the meds
F	15 years	22 years	Y	Mom, then transitioned to patient, who managed independently
F	11 years	19 years	N	Unknown, participant did not discuss
M	15 years	23 years	N	Parent independent—mom had to work
M	12-13 years	21 years	N	Parents very involved

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Adherence-Case Study

- Mathew-high risk ALL, CNS-, RER
- Indicators of non-adherence
  - Increased ANC
  - High doses of 6-MP & MTX
  - Pharmacy refills
  - Self-admission
- Strategies to improve adherence
  - Reduction of oral medications
  - Medication calendar
  - Methotrexate injection given orally

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MEDICATION CALENDAR for: AAHL0131 – Consolidation Cycle 6 Regular Medications
MONTH September 2009

DRUG & DOSAGE	DAY / TIME
PREDNISONE 5 mg & 50 mg tablets	Breakfast
	Lunch
	Supper
MERCAPTOPURINE 50 mg tablets (Purinethol®) Give 200 mg (4 tablets) daily at bedtime days 1-5	Bedtime
RANITIDINE 150 mg tablets	Breakfast
	Supper
COTRIMOXAZOLE 400/80 mg Tablet (Septra®, Novotrimel®) Take 1/2 tablet in morning and 1 tablet in evening every Friday, Saturday and Sunday	8 AM
	8 PM
BIOTENE Mouthrinse	After Breakfast
	Before Bedtime

Prepared by: TBAINS 19Aug09

Pharmacy Department, Children's Hospital of Eastern Ontario (613) 737-7600 ext 2793
Please follow the medication calendar and initial each dose as it is given.
Please bring this medication calendar to your next clinic appointment. Date: ____________ Signature: ____________________

Body Image

- '…any significant alteration to body image occurring outside the realms of expected human development'
- Adolescents-challenging phase of life
  - Puberty
  - Self-esteem
  - Independence

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Body Image

Indirect Impact
- Fatigue
- Sexuality

Direct Impact
- Alopecia
- Bone marrow suppression
- Gastrointestinal disturbances
- Impaired fertility
- Bone changes
- Altered skin integrity

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Body Image & Grief Reaction

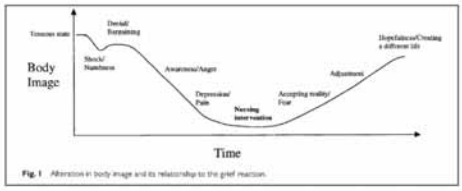

Fig. 1 Alteration in body image and its relationship to the grief reaction.

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Transition of Care

- 'passage from one form, state, style, or place to another'
- Multiple transitions
  - Active treatment to off treatment
  - Adult center for transplant, radiation therapy or surgery
  - Adult center for active treatment
  - Adult center for long term follow-up

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Aftercare-Long Term Follow Up

- Although pediatric cancers make up less than 1% of all cancers, nearly 70 000 patient years of life are saved each year placing childhood cancer second only to breast cancer in terms of years of life saved
- Success in cure rates results from intensive therapy regimens (chemotherapy, surgery, radiation)

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Aftercare-Long Term Follow Up

- Associated cost of cure as a result of the effects of therapy on growing and developing bodies
- Many of these adverse effects may not appear for many years after treatment has ended
- Participation in aftercare programs allows for monitoring of late effects and the potential of early intervention

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Cost of Cure

The Childhood Cancer Survivor Study (CCSS)

- Survivors diagnosed between 1970-1986 at 25 pediatric oncology centers in North America
- More than 10 000 adult survivors
- Almost two thirds reported at least one chronic health problem
- 25% report a severe condition and almost 25% report having three or more chronic health problems

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Aftercare

- Survivors at highest risk of having a high grade condition were those with bone tumours, CNS tumours and Hodgkin's disease
- Exposure to specific treatment combinations was associated with at least 10 times increased risk of having a high grade chronic condition
  - Chest radiation plus bleomycin
  - Chest radiation plus an anthracycline
  - Chest radiation plus abdominal or pelvic radiation
  - Anthracycline plus an alkylating agent
  - Abdominal or pelvic radiation plus an alkylating agent

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Aftercare-Late Effects

Cardiovascular
- Cardiomyopathy, coronary artery disease, valvular damage, cerebral vascular disease, stroke

Pulmonary
- Pulmonary fibrosis, chest wall deformity

Endocrine
- Hypothalamic pituitary axis damage, gonadal failure, osteoporosis, obesity, hypothyroidism

Musculoskeletal
- Growth discrepancies, amputation/limb salvage, peripheral neuropathies, contractures, osteonecrosis, osteoporosis

Cognitive/Developmental
- Loss of executive function, learning disabilities, leukoencephalopathy, hyperactivity, cerebellar syndrome, hydrocephalus

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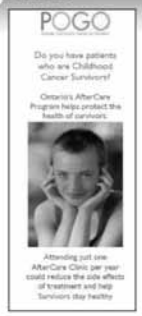
Aftercare Programs

- Provincial childhood cancer survivor programs
- 5 pediatric collaborating centers in partnership with adult sites (Ottawa, Kingston, London, Hamilton, Toronto)
- Funded by the Ministry of Health & Ministry of Education



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Palliative Care

- Comprehensive system of care aimed at preventing or relieving the symptoms or suffering caused by life-threatening medical conditions.
  - One in 5 children diagnosed with cancer will die from the disease
  - Death of child is considered one of the greatest stresses a parent can experience
  - Palliative phase-begins at point that no further treatment is available and ends at child's death

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Palliative Care-Needs of Parents

- Need to have child recognized as special while preserving normalcy
- Need to feel cared for and connected to health care professionals
- Need to retain responsibility of parenting their dying child

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PEDIATRICS Vol. 113 No. 2 February 2004

Palliative Care-Adolescents

- Developmental Issues
- Ethical and Legal Issues
- Communication, Decision-making & Psychosocial Support

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CHEO-Palliative Care

- Palliative Care Team
- Pain and Symptom Management Team
- Roger's House
- Continuity of Care

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Palliative Care-Case Study

- Martin-17 y/o anaplastic astrocytoma in May 2007
  - Temozolomide and radiation
- Tumor progression July 2007
  - Irinotecan, Temozolomide, Vincristine
- Intolerance of Irinotecan March 2008
  - Vinorelbine
- Progression of symptoms June 2009
  - Transfer to Palliative Care Team
    - Passed away September 2009

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Pediatric Challenges-Conclusions

- Taking oral medications
  - Time, patience and creativity
  - Pediatric strategies can apply to some adult patients
- Adolescent Issues
  - Adherence strategies
  - Empathy
- Role of the pediatric oncology pharmacist
  - complex and challenging
  - extremely rewarding

CHEO Children's Hospital of Eastern Ontario / Centre hospitalier pour enfants de l'est de l'Ontario

References

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CHEO Children's Hospital of Eastern Ontario / Centre hospitalier pour enfants de l'est de l'Ontario

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CHEO Children's Hospital of Eastern Ontario / Centre hospitalier pour enfants de l'est de l'Ontario

2009 | NOPS SPEAKER

MONA SABHARWAL
Senior Manager, Drug Benefits Management, Ontario Public Drug Programs,
Ministry of Health and Long Term Care, Toronto, ON

BIOGRAPHY

Mona Sabharwal is currently Senior Manager, Drug Programs Management, Ontario Public Drug Programs, Ministry of Health and Long-Term Care. In this role, she has operational oversight for the drug submission and evaluation process for the province's seven public drug programs. The province invests over $4.1 billion annually in those seven drug programs. Ontario's review process is currently acting as the interim Joint Oncology Drug Review process until a permanent process and structure is in place.

Mona is a licensed pharmacist who has practiced in community and hospital pharmacy settings. She also has experience in conducting practice-based research, looking at concrete ways to improve delivery of pharmacist cognitive services. For the last 10 years, she has worked in drug assessment and formulary management, in British Columbia and Ontario. She obtained both her Bachelors of Science in Pharmacy and her Doctorate of Pharmacy from the University of Toronto.

SYNOPSIS

UPDATE ON JOINT ONCOLOGY DRUG REVIEW (JODR) *Saturday, October 24th, 15:35-16:35*

In a move to build more consistent cancer care across the country, a collaboration of provinces and territories created a national, interim process for the review of cancer drugs. The interim Joint Oncology Drug Review (JODR) was implemented in March 2007 to help ensure a more timely, effective and efficient review and evaluation of cancer drugs.

During the interim JODR, manufacturers of oncology drugs make a single submission for review through Ontario's Committee to Evaluate Drugs/Cancer Care Ontario. The interim JODR provides advice and funding recommendations to all participating provinces and territories, although final coverage decisions remain the responsibility of each jurisdiction.

The interim process remains in place until the Deputy Ministers of Health evaluate final recommendations on a permanent national process.

By the end of the presentation, participants will be able to:

- Understand the rationale for this national collaborative initiative
- Describe the evaluative framework for reviewing new drug therapies / indications under the interim JODR process
- Become familiar with the key principles that will form the foundation of the permanent JODR process
- Conceptualize the impact the permanent JODR process may have on future drug funding decisions in your province

2009 | NOPS SPEAKER

NATHALIE LETARTE

Oncology Pharmacist, Pharmacy Department CHUM, Clinical Professor at the Pharmacy Faculty from the University of Montreal, Montreal, QC

BIOGRAPHY:

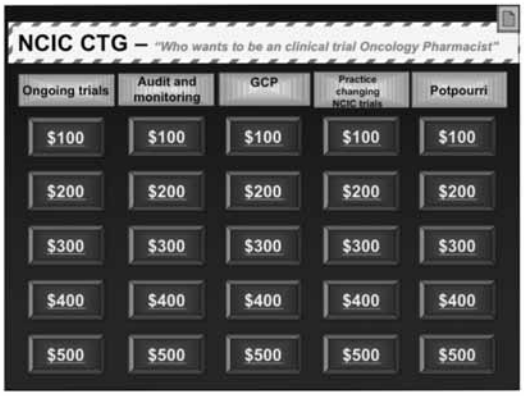
Nathalie Letarte is an oncology pharmacist at the Centre hospitalier de l'Université de Montréal and an Assistant Clinical Professor at the Faculty of Pharmacy of the University of Montreal. She received there her Bachelor degree in Pharmacy in 1997 and her Masters' degree in Pharmacy Practice from that same institution in 1998. She has recently completed a fellowship in Oncology at the University of Illinois at Chicago. She has been working in Oncology for ten years and has been involved in clinical trials and with the NCIC CTG Pharmacist Network since 2003. She co-chairs the Pharmacist Network Steering Group since 2008.

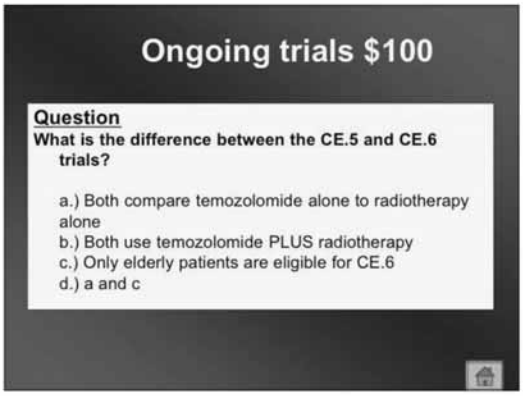
SYNOPSIS

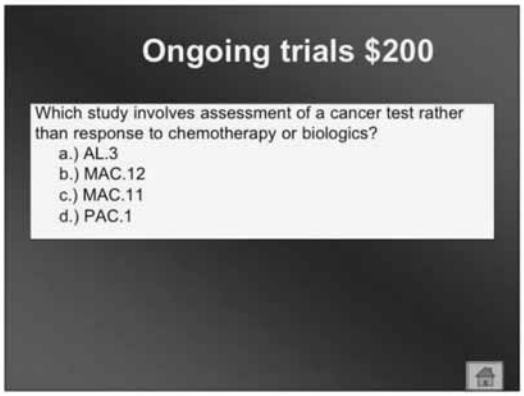
NCIC PRESENTATION – TRIALS AND TRIBULATION *Sunday, October 25th, 09:20-10:05*

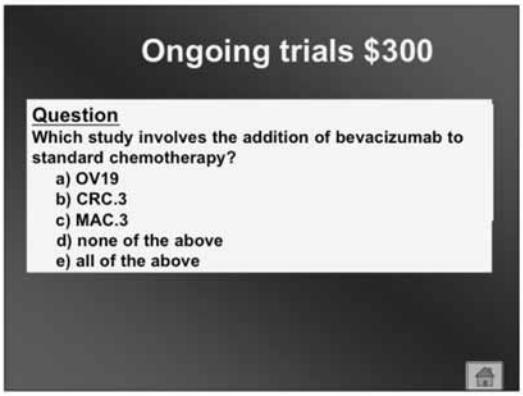
"Trials and tribulations" is a fun interactive presentation to spark up your Sunday morning. At the end of the presentation you will:

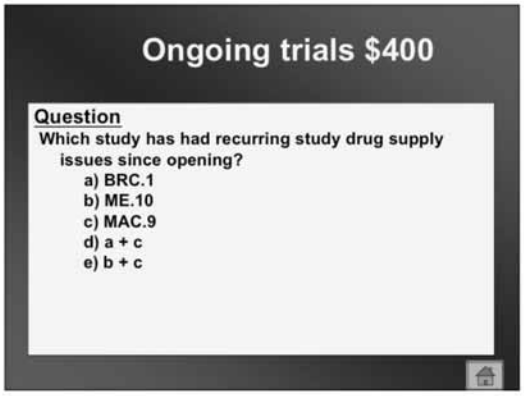
- know more about ongoing clinical trials with the NCIC CTG
- learn about practice changing clinical trials from the NCIC CTG
- be more familiar with Good Clinical Practice issues
- know more about audit and monitoring visits

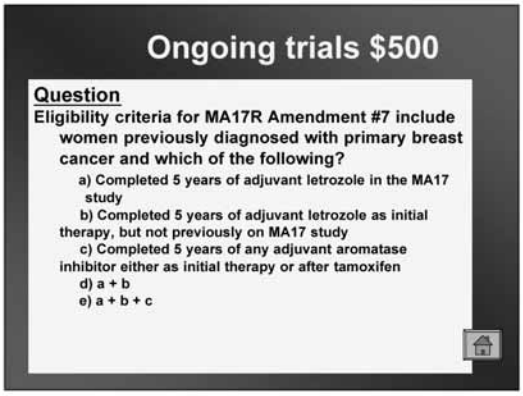

NCIC CTG – "Who wants to be an clinical trial Oncology Pharmacist"
Ongoing trials
Audit and monitoring
GCP
Practice changing NCIC trials
Potpourri
$100
$200
$300
$400
$500


Ongoing trials $100
Question
What is the difference between the CE.5 and CE.6 trials?
a.) Both compare temozolomide alone to radiotherapy alone
b.) Both use temozolomide PLUS radiotherapy
c.) Only elderly patients are eligible for CE.6
d.) a and c


Ongoing trials $200
Which study involves assessment of a cancer test rather than response to chemotherapy or biologics?
a.) AL.3
b.) MAC.12
c.) MAC.11
d.) PAC.1


Ongoing trials $300
Question
Which study involves the addition of bevacizumab to standard chemotherapy?
a) OV19
b) CRC.3
c) MAC.3
d) none of the above
e) all of the above


Ongoing trials $400
Question
Which study has had recurring study drug supply issues since opening?
a) BRC.1
b) ME.10
c) MAC.9
d) a + c
e) b + c


Ongoing trials $500
Question
Eligibility criteria for MA17R Amendment #7 include women previously diagnosed with primary breast cancer and which of the following?
a) Completed 5 years of adjuvant letrozole in the MA17 study
b) Completed 5 years of adjuvant letrozole as initial therapy, but not previously on MA17 study
c) Completed 5 years of any adjuvant aromatase inhibitor either as initial therapy or after tamoxifen
d) a + b
e) a + b + c

Audit and monitoring $100

Question
What does AMG check during pre-review of DAL faxed?

a) Timeliness of entries on the DAL
b) Corrections are lined out/initialed/dated
c) Study drugs are logged on one DAL
d) Patient specific DALs for double-blinded protocols
e) a + b + c
f) a + b + d

Audit and monitoring $200

Question
What will the Monitor check in your pharmacy while on site?
a) Three patient identifiers are used and are correct on the DAL
b) DAL is maintained in a timely manner, within a window of 7 days
c) All corrections are lined out, initialed, and dated
d) DAL is protocol and drug specific
e) a + b + c
f) c + d

Audit and monitoring $300

Question
The monitor will also ensure that:

a) All shipping receipts are present
b) All shipping receipts are recorded on the DAL
c) All records are done within 3 days of receipts
d) a + b + c
e) a + b

Audit and monitoring $400

Question
During reconciliation, the Monitor checks

a) That the stock balance matches that of DAL
b) All drugs involved in the study are stored appropriately
c) That no expired drugs are present
d) That the destruction or return is complete within 6 months of notice
e) a + c
f) a + b + d

Audit and monitoring $500

Question
NCIC CTG performs these Monitoring Visits because:

a) The site has too many protocol deviations
b) They feel like it
c) The site has high accrual
d) The site has many IND studies
e) a + b + c
f) a + c + d

Good clinical practice $100

Question
Which factors drove the development of Good Clinical Practice (GCP)?

a) Need to protect patients against unsafe products
b) Need for health authorities to base decisions on reliable data
c) Industry desire for a more economic process of drug development
d) Inhumane treatment of test animals
e) A and B
f) A and B and C

GCP $200

Question

Which principles are included in the 13 principles of GCP?

a) Informed consent should be obtained from every subject prior to trial participation
b) Each individual involved in conduction of a trial should be qualified by education, training and experience
c) Trials should be conducted in compliance with the protocol that has received IRB/IEC approval
d) All clinical trial information should be recorded, handled and stored in a way that allows accurate reporting and interpretation.
e) All of the above

Double Points $600

Question

What is the main role of the Institutional Research Board (IRB) in a clinical trial?

a) To protect rights, safety and well-being of trial subjects by independently reviewing the trial
b) To provide medical expertise and knowledge throughout the trial
c) To assist in the design, conduct and analysis of the trial
d) To work with the sponsor to ensure that the marketed product is safe for consumers

GCP $400

Question

Which statement regarding the use and accountability of investigational product is false?

a) The investigator/delegate is responsible for maintaining the proper accountability of the study drug receipt and dispensing
b) The investigator/delegate is responsible for explaining the correct use of investigational product to study subjects
c) Only authorized study staff should have access to investigational product
d) Investigator/delegate is NOT responsible for randomization and blinding procedures at the site

GCP $500

Question

True or false ?

Pharmacy dispensing records and records kept in the pharmacy are source documents ?

Triple Points!!! $300

Question

BR-21 demonstrated that which drug improved overall survival in second-third line non small cell lung cancer ?

Double Points!!! $400

Question

1. Which study presented at ASCO showed that cisplatin and vinorelbine improved overall survival when administered as an adjuvant treatment to surgery in non small cell lung cancer?

Practice changing trials $300

Question

Which study demonstrated that we could give an extra 3 years of letrozole after 5 years of tamoxifene ?

Practice changing trials $400

Question

Temozolomide is now used as first-line therapy for glioblastoma multiform because of which study?

Practice changing trials $500

Question

What drug showed efficacy in progression free survival in metastatic colorectal cancer in CO-17 ?

Potpourri $100

Question

In which year were pharmacists' representatives first established as executive members of the NCIC CTG disease site and standing committee ?

a) 1993
b) 1994
c) 1995
d) 1996

Potpourri $200

Question:

One objective of the NCIC Pharmacists' Network is the provision of a Pharmacists' Network Manual. Which of these subjects are discussed in the manual?

a) dispensing
b) administration
c) cost evaluation
d) Reimbursement
e) None of the above
f) All of the above

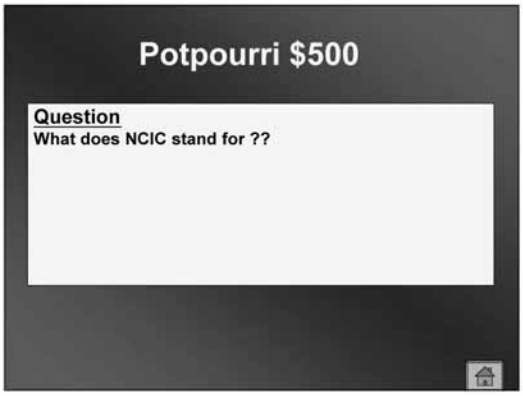
Potpourri $300

Question

True or false? The members of the Steering group are from different geographical regions of Canada.

Atlantic (1)
Quebec (2)
Ontario (2)
Western (2)
NCIC CTG office (2)


Potpourri $400
Question
This is a list of useful tools developed for pharmacists involved in CT. Where can you find these ?
1. Temperature log
2. Pharmacy signature log
3. Pharmacy Manual
4. DALs
http://www.ctg.queensu.ca


Potpourri $500
Question
What does NCIC stand for ??

2009 | NOPS SPEAKER

CAROLE R CHAMBERS

ISOPP President, Alberta Health Services - Pharmacy Director,Cancer Services, Tom Baker Cancer Centre, Calgary, AB

BIOGRAPHY

Carole is the Pharmacy Director of Cancer Services with the Alberta Health Services, with over 30 peer reviewed publications. She is also the Director of an accredited Pharmacy Residency Program, a general residency with a focus in oncology.

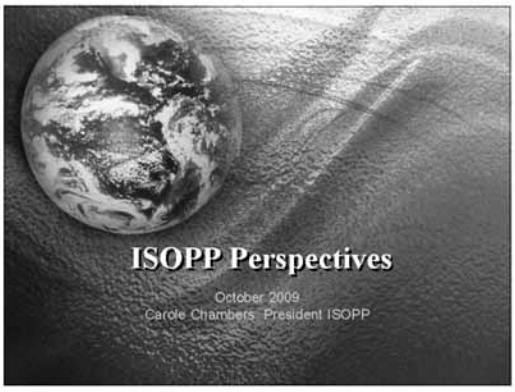
Carole has received the Distinguished Service Award from the Canadian Association of Pharmacy in Oncology (2005), and an Achievement Award (2006) from the International Society of Oncology Pharmacy Practitioners for longstanding commitment to oncology pharmacy practice through sustained excellence in providing oncology pharmacy services, leadership in innovative oncology pharmacy, related research and ongoing contributions to ISOPP. She is currently serving as the President of ISOPP.

SYNOPSIS

ISOPP PERSPECTIVES *Sunday, October 25th, 10:25-10:55*

As the current President of ISOPP this session has the following learning objectives:

- discover iSOPP and some of its activities
- share my entry goals as President and reality
- share some international standards gems
- potential roles for CAPhO to consider



Objectives

- Introduce ISOPP and some of its activities
- Share my entry goals as President and the reality of my President role
- Share some international standards gems
- Consider CAPhO's involvement current and potential

International Society of Oncology Pharmacy Practitioners (ISOPP)

4.1 The purpose of the Society shall be to determine the best possible medical care for cancer patients, thereby improving their quality of life. **This is achieved by:**
4.1.1 Conducting and supporting oncology pharmacy practice-related research
4.1.2 Promoting oncology pharmacy practice worldwide to the healthcare profession and to the public
4.1.3 Providing educational opportunities for oncology pharmacists

4.2 The Society shall accompany the publication of developments in clinical practice with professional activities. **This shall be achieved by:**
4.2.1 Disseminating important clinical and research findings through the Society's official journal, the Journal of Oncology Pharmacy Practice (JOPP), and other scientific publications.

Amendments approved by ISOPP membership at Anaheim AGM 2008

ISOPP Secretariate 2008 - 2010

- Carole Chambers - President
- Johan Vandenbroucke – President Elect*
- Terry Maunsell - Treasurer
- Judith Smith – Secretary*
- Ruth Tramschek – Member*
- Harbans Dhillon – Member*
- Shereen Nabhani - Member
- Rosalyn Sims-McCallum – Member

- * terms extend beyond 2010

Committees

- Education: Franca Goffredo
  Lynne Nakashima
  Research : Kellie Jones
  Standards: Jim Jorgenson
  Publications: Felice Musicco
  Jill Davis
  Membership and Finance:
  Bruce Burnett
  Nagwa Ibrahim

Strategic Plan 2006 to 2010

1. Develop, qualify, and validate a minimum quality documentation for handling of cytotoxic drugs
2. Review and Update the Constitution/Rules of ISOPP after its first decade
3. Align with Institute for Safe Medication Practices for focus on medication error prevention in oncology practice
4. Develop sustained infrastructure for ISOPP functionality – eg funding base, job descriptions, policy/procedure, strategic plans
5. Expand research opportunities for international collaboration to further advance oncology pharmacy research and practice
6. Create and/or support regional networks of oncology pharmacy practitioners
7. Strengthen the support program for pharmacists new to oncology
8. Develop a liaison with FIP and through them to WHO to ensure that ISOPP has a voice in oncology discussions at WHO
9. Recruit members from each continent in the world
10. Organize international Master Classes in areas such as Fundamental safe handling issues, fundamental clinical oncology pahramcy and advanced clinical oncology pharmacy
11. Create a team of experts or resource people in oncology pharmacy practice who are willing to deliver educational session in various settings and modalities and address questions from members that cannot be addressed by the regional networks

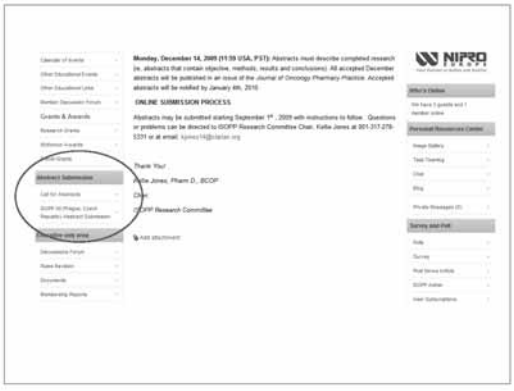
2009 | CAROLE R CHAMBERS PRESENTATION HANDOUTS

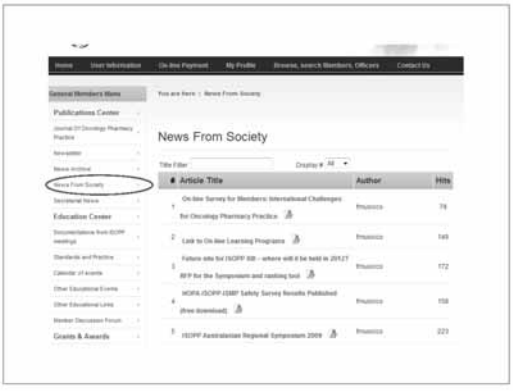
SWOT Analysis

- Strength: our GLOBAL membership
- Weakness: financial sustainability
- Opportunities:
  Education offerings outside conferences
  Website growth
- Threat: Financial sustainability

ISOPP Website – www.isopp.org

- 18 vendors responded to an RFP 2008
- new ISOPP website design launched end of April 2009





ISOPP Survey: International Challenges of Oncology Pharmacy Practice

- 150 responses or 34%response rate
- Participation from 35 countries
- 17% United States
- 13% Australia
- 12% Canada
- 7% Germany
- 4% United Kingdom
- 47% from 30 other countries

Rating of Challenges

- Cost of Cytotoxics
- Human Exposure
- Multiple Standards
- Workforce Shortages
- Continuing Education
- Protocol/Acronyms
- Biologics
- Orals
- Patient number increases
- Look Alike Sound Alikes
- Language in References
- Drug shortages
- Vincristine in minibags
- Internet communication

Vincristine

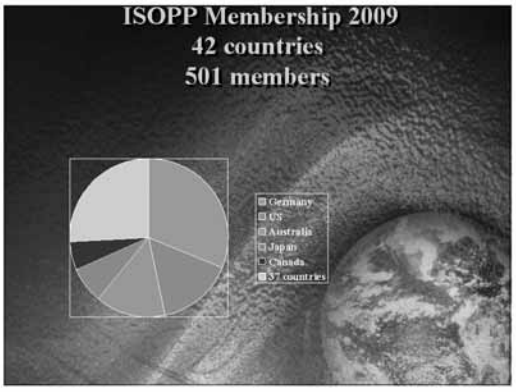
- WHO Alert 115 - 18 July 2007
- Vincristine (and other vinca alkaloids should only be given intravenously via a minibag.
- JOPP Best paper award:
- Gilbar, P, Carrington, CV The incidence of extravasation of vinca alkaloids supplied in syringes or minibags JOPP 2006;12:113-8

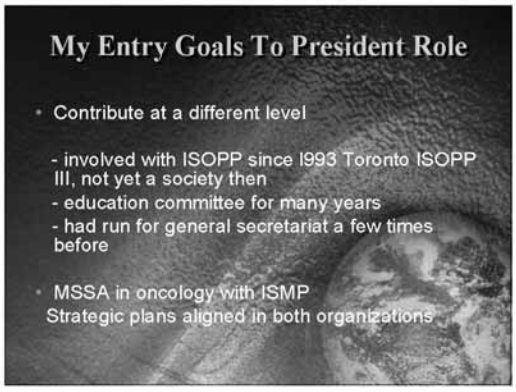
Table 7 Vincristine Strategies

Selected results for 2006 ISMP Vincristine Survey*		ISMP-HOPA-ISOPP 2008 Survey	Setting 2006		ISMP-HOPA-ISOPP 2008 Survey	
	All Respondents (n=417)	All Respondents (n=378)	Outpatient (n=69)	Inpatient (n=66)	Outpatient (n=121)	Inpatient (n=201)
1. Doses diluted and dispensed/administered in a minibag	23%	33.2%	10%	35%	28.3%	37.4%
2. Intrathecal medications packaged distinctively different than IV vincristine	55%	85%	60%	48%	85.8%	83.4%
3. Special warning on extemporaneously prepared doses of IV vincristine	54%	86.1%	55%	47%	92.4%	82.4%
4. IV vincristine placed in manufacturer's overwrap with special warning	77%	53%	66%	77%	57.6%	52.8%
5. Delivery to area where intrathecal medications prohibited	24%	46.3%	31%	15%	57.3%	37.2%
6.Prohibited where intrathecal medications are administered	39%	52.5%	43%	31%	65.3%	42.9%
7. Banned from lumbar puncture rooms	40%	56.2%	53%	20%	64.4%	47.8%
8. Verification of completed intrathecal administration prior to dispensing	43%	47.6%	48%	33%	56.3%	39.2%

*2006 ISMP Results posted at http://www.ismp.org/survey/vincristineReports.asp

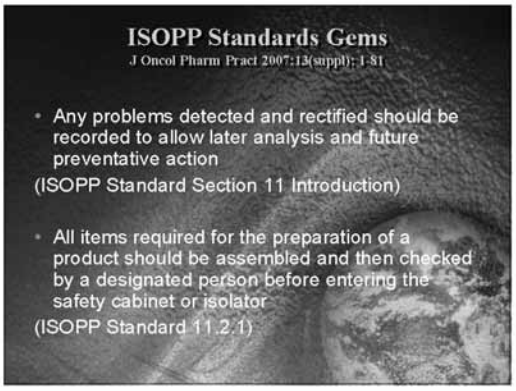
P.E. Johnson, C.R. Chambers, A.J. Vaida. Oncology Medication Safety: A 3D Status Report. J Oncol Pharm Practice 2008; 14:169-80.


ISOPP Membership 2009
42 countries
501 members
Germany
US
Australia
Japan
Canada
37 countries


My Entry Goals To President Role
• Contribute at a different level
- involved with ISOPP since 1993 Toronto ISOPP III, not yet a society then
- education committee for many years
- had run for general secretariat a few times before
• MSSA in oncology with ISMP
Strategic plans aligned in both organizations


Realities of my Presidency
• MSSA becoming a reality despite economy
• Contracts – JOPP, CMC, Website, Sponsors, Symposiums
• Sponsorship opportunities – diversification
• RFPs
• Timeanddate.com
• Skype
• Timelines for German courts – constitution filing
• Public speaking
• Networking


ISOPP Standards Gems
J Oncol Pharm Pract 2007;13(suppl):1-81
• Only one patient's treatment should be prepared at a time and only one drug should be in the 'workzone' at any one time
(ISOPP Standard 11.2.2)
• Techniques which prevent a pressure differential between the inside and outside of cytotoxic vials are recommended
(ISOPP Standard 7.2)


ISOPP Standards Gems
J Oncol Pharm Pract 2007;13(suppl):1-81
• Any problems detected and rectified should be recorded to allow later analysis and future preventative action
(ISOPP Standard Section 11 Introduction)
• All items required for the preparation of a product should be assembled and then checked by a designated person before entering the safety cabinet or isolator
(ISOPP Standard 11.2.1)


CAPhO potential roles
• Continue
Travel grants to attend ISOPP Symposium
Hosting ISOPP Symposium – 2014?
Sharing Educational material broadly
Creating future leaders in oncology practice
• Consider
ISOPP President invitation in NOPS program
Further integration ideas that mutually benefit our members

Individual CAPhO Members

- Consider also joining ISOPP
- Consider becoming involved at various levels in ISOPP.
- Canadians have sustained participation in key roles in ISOPP since inception – Presidents, Secretariate, Committee Chairs, Committee members, Publications in JOPP, membership chats, and many others

ISOPP Members and JOPP profiled in Recent CPhA Translator highlighting Canadian Pharmacist Research on Cancer Care

- **Cancer care pharmacists**
- The studies featured in this issue of the Translator highlight research demonstrating how the inclusion of pharmacists in cancer care can enhance patient care and patient safety.
- Pharmacists play essential roles in palliative care
- Satellite pharmacy increases inter-professional collaboration and enhances patient care
- A pharmacist improves care in outpatient brain cancer clinic
- Pharmacists adhere to cancer medication error prevention strategies
- Visit our website to access online
- *theTranslator* is an initiative launched by the Canadian Pharmacists Association to support the knowledge translation between pharmacy practice research and health policy. Each issue selects a number of pharmacy practice research articles, briefly summarizes them and discusses the health care policy implications. These articles are submitted by Canadian researchers who have a strong desire to support evidence-based health care policy and best practices.

2009 | NOPS SPEAKER

DARRYL BOEHM

Provincial Manager, Oncology Pharmacy Services, Saskatchewan Cancer Agency c/o Allan Blair Cancer Centre, Regina, SK

BIOGRAPHY

Darryl Boehm has been the Provincial Manager of Oncology Pharmacy Services for the Saskatchewan Cancer Agency since Aug 2008. Previous to this, he was the Senior Pharmacist at the Allan Blair Cancer Centre in Regina where he is still located. Darryl graduated from the College of Pharmacy in 1989 with Distinction and completed an oncology pharmacy residency at Royal University Hospital in Saskatoon in 1991. Darryl has participated as a member of the NOPS planning committee for several years, and has given several presentations both locally and nationally, including previous NOPS. He is married with 2 children.

SYNOPSIS

MEDICATION RECONCILIATION IN THE ONCOLOGY SETTING OUTPATIENT PERSPECTIVE *Sunday, October 25, 11:00 - 11:30*

Medication Reconciliation is a defined accreditation standard. This short presentation will outline the definition of Medication Reconciliation and the challenges of interpreting this concept in an outpatient oncology setting. There will be a summary of 2 pilot projects at the Saskatchewan Cancer Agency including a baseline audit of medication accuracy in the patient chart, and an outline as to how Medication Reconciliation has been interpreted in our organization and plans to fully implement Medication Reconciliation. At the end of this presentation, the audience should be able to define Medication Reconciliation and understand the challenges of interpreting and implementing Medication Reconciliation in an outpatient oncology setting.

It has been a long road planning medication reconciliation at CancerCare Manitoba.

2009 | NOPS SPEAKER

JAMIE TRUDEL
Pharmacy Technician, CancerCare Manitoba, Winnipeg, MB

BIOGRAPHY

Jamie Trudel graduated from technical college in 1994 and has worked in a variety of types of pharmacies over the last 15 years. Jamie has worked in personal care and retail settings and remains working in primary care hospital and Oncology settings. Jamie has worked primarily in an IV room setting for the last 13 years, most of which has consisted of chemotherapy and sterile product preparation.

Jamie has recently taken a more active role in the training of physicians with CancerCare Manitoba's CPOE (computer physician order entry) project. He has also become more involved in the management of electronic regimens and drug database maintenance. Presently, Jamie is involved in patient safety initiatives in conjunction with CancerCare Manitoba's Quality, Patient Safety and Risk department, which has led to his involvement in Medication Reconciliation.

On a personal note, Jamie enjoys spending time with his wife of eleven years and his two daughters.

SYNOPSIS

MEDICATION RECONCILIATION IN THE ONCOLOGY SETTING
OUTPATIENT PERSPECTIVE

Sunday, October 25, 11:00 - 11:30

It has been a long road planning medication reconciliation at CancerCare Manitoba.

In this presentation, we will review the planning that has occurred in the development of the initial phase of the medication reconciliation project in an outpatient setting. We will highlight the processes and problems that we have encountered in the pilot project.

Some of the following questions will be addressed:

- What is the role of a pharmacy technician in medication reconciliation in an ambulatory facility?
- How does this role integrate with the roles of the other team members?
- How do we incorporate technology into the project?
- What are some of the barriers and how do we promote this as a vital tool in "patient safety"?
- How do we integrate this concept into an already busy outpatient clinic?

MEDICATION RECONCILIATION IN THE ONCOLOGY SETTING – OUTPATIENT PERSPECTIVE

Med Rec Pilot Project at CancerCare Manitoba

- Pain and Symptom Management clinics at the St. Boniface and MacCharles sites
- Baseline data was collected for approximately 30 new patients in the specified clinics
- Multi-disciplinary team assembled to define current and future states
- At present, pilot on hold temporarily

It's Safe to Ask About Your Medications
Vous pouvez poser des questions au sujet de vos médicaments

Name/Nom :

Manitoba Health Registration #/N° d'immatriculation Santé Manitoba :

Personal Health ID #/N° d'identification personnelle

Medical Plan #/Autre nom et N° d'assurance santé (e.g. Blue Cross) :

Family Doctor's Name/Nom du médecin de famille :

Phone/N° de téléphone :

Emergency Contact/Nom contact en cas d'urgence :

Phone/N° de téléphone :

Pharmacy Name/Nom de pharmacie :

Completed Health Care Directive/ ☐ Yes/Oui ☐ No/Non

Medical History/Antécédents médicaux :

☐ diabetes/diabète
☐ high blood pressure/haute pression
☐ heart disease/maladie de cœur
☐ breathing problems/problèmes respiratoires
☐ other medical problems (list below)/ autres problèmes médicaux (veuillez préciser)

My allergies or bad reactions to medications/ Allergies ou réactions indésirables aux médicaments :

LIST ALL MEDICATIONS THAT YOU TAKE. INCLUDE HERBAL MEDICINE AND VITAMINS.
INDIQUEZ TOUS LES MÉDICAMENTS QUE VOUS PRENEZ, Y COMPRIS LES PLANTES MÉDICINALES ET LES VITAMINES.

Medication name *Nom du médicament*	Strength *Puissance*	How much *Quantité*	How often *Fréquence*	Date/Date Started/Début	Stopped/Fin	Reason for taking *Motif de l'administration*	Who prescribed *Qui a prescrit*
Example: My drug Exemple : mon médicament	20 mg 20 mg	1 tablet 1 comprimé	2 times a day 2 fois par jour	May 1, 2008 1er mai 2008		blood pressure haute pression	Dr. Doe Dr Tremblay

If you have questions call your pharmacist, or, the Medication Information Line for Everyone (M.I.L.E.) at 474-6493.
Si vous avez des questions, téléphonez à votre pharmacien ou utilisez la Ligne d'information publique sur les médicaments (M.I.L.E.) en composant le 474-6493.

Why is Med Rec Important?

- Identified by Accreditation Canada
- More accurate patient medication profiles
- Less discrepancies and medication errors
- Enhanced patient safety

What is the role of a Pharmacy Technician in Medication Reconciliation in an Ambulatory Facility???

Traditionally…..

- Label generation
- Sterile product preparation
- Patient profile maintenance
- Investigational drugs, wardstock, etc.

Stepping Forward.... to New Roles

- **Clinical Resource Technician**
- **Tech check Tech**
- **I.T./Clinical Support**
  - CPOE Training
- **Patient Safety Initiatives**
  - Medication Reconciliation

How Can a Technician Help in a Medication Reconciliation Team?

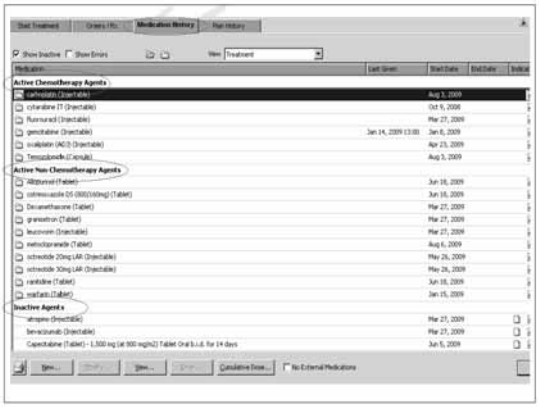
- Technicians can help fill in gaps in already overburdened clinics
- Ideas tabled by the medication reconciliation implementation team
  - Taking medication histories (initial BPMH), ESAS form assistance, generation of DPIN reports, drug database maintenance, information transcription, and auditing.

How Can Technology Help??

- **Current (traditional system)....**
  - Inaccurate
  - Duplication of work
  - Cumbersome
  - Information not accessible in one location
  - Potential source of discrepancies and/or errors

How Can Technology Help??

- **New (Electronic Medication History)....**
  - Information entered once in the proper location on initial clinic visit
  - Subsequent visits become maintenance entries (i.e. Dose changes, D/C's, new meds)
  - Use of Tablet Computers for portability and for electronic completion of ESAS forms
  - CPOE



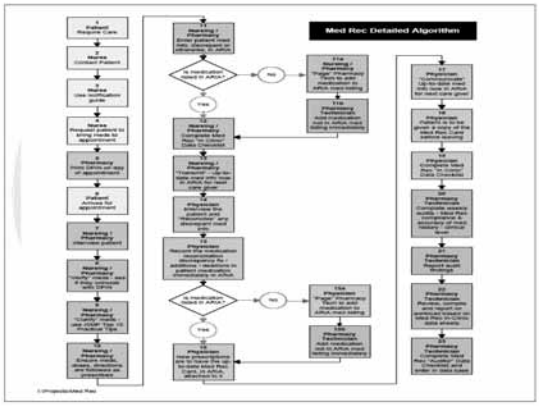
Barriers and Challenges

- Time…is not on our side
- Lack of information in outpatient setting
- No immediate benefit readily apparent to health care providers for extra work involved
- Two sites and three clinics in pilot
- Vacations, and scheduling conflicts
- Mandatory software training by I.S.

Lack of Ownership

Who is responsible?

- Patient?
- Clinic Nurse?
- Clerk?
- Pharmacist?
- Physician?
- Pharmacy Tech?



Thank you!

2009 | NOPS SPEAKER

KAREN MACCURDY THOMPSON
Oncology Pharmacist, The Moncton Hospital, Moncton, NB

MARTIN FRANCO
Pharmacien, Secteur Hémato-Oncologie, Greffe de Cellules Hématopoïétiques,
Hôpital Maisonneuve-Rosemont, Montréal, QC

BIOGRAPHY

Karen MacCurdy Thompson is a graduate of the College of Pharmacy, Dalhousie University. She began her career working in community pharmacies before starting to work at The Moncton Hospital in 1987.

Karen has served on many committees both nationally and provincially during her career representing the New Brunswick Pharmaceutical Society and CSHP. She is an active member of CAPHO and on the educational committee for ISOPP, 2010.

Karen is currently working as the clinical pharmacist on the inpatient oncology ward. She has a great passion for her patients who always present a challenge.

Karen has been doing Medication Reconciliation for oncology inpatients for several years and she brings her expertise to share with everyone today.

Martin Franco has completed his bachelor and master degrees in hospital pharmacy in 2003 at University of Montreal. He works as a pharmacist in the haematology and bone marrow transplant unit at the Maisonneuve-Rosemont Hospital. He coordinates the accreditation for pharmacy, bone marrow transplant services and the medication reconciliation implementation at his center. Since 2008, he is an executive representative of Maisonneuve-Rosemont Hospital's Council of Physicians, Dentists and Pharmacists and also seats as a member of the board of directors of the Association des Pharmaciens des Établissements de Santé du Québec. As a complimentary role, he is also the president of the medication reconciliation committee for the Association des Pharmaciens des Établissements de Santé du Québec.

SYNOPSIS:

MEDICATION RECONCILIATION IN THE ONCOLOGY SETTING
INPATIENT PERSPECTIVE

Sunday, October 25th, 11:30-12:00

Treatment of brain tumours changed in 2005 with the approval of temozolamide. Standard treatment of newly diagnosed glioblastoma with temozolamide and radiation has increased the 2 year survival rate of patients. This talk will look at the advances in the treatment of brain tumours beyond temozolamide.

Objectives:

- To explore the challenges of delivery of therapeutics to the brain and how this affects current and future research
- To explore the new therapeutic strategies, such as targeted therapies and anti-angiogenic treatments
- To describe the advances in our understanding of disease response, and resistance

Medication Reconciliation in the Oncology Setting: Inpatient Perspective

Karen MacCurdy Thompson
Oncology Pharmacist
RHA B, Zone 1 Moncton
October 25th,2009

Objectives

- Provide an overview of the medication reconciliation process for patients admitted to the oncology ward of The Moncton Hospital (TMH)
- Discuss the expectations of the patients and health care professionals of the medication reconciliation process
- Identify the responsibilities of various professionals in the medication reconciliation process

Regional Health Authority B
Moncton Zone

- The Moncton Hospital is RHA B's centre for tertiary care (approximately 400 beds)
- The oncology pharmacy team consists of:
  - 3.6 FTE pharmacists
  - 3 FTE technicians
- Average doses prepared by pharmacy 742/month

The Evolution

- 1993 mandated by the Minister of Health of New Brunswick to use patient's own supply of medication in hospital as cost saving measure.
- 1996 Hospital-wide "Home Med" program
- 2000 Seamless Care Research
- 2005 Expanded Technician Role in DPC

Med Rec Process at TMH Oncology Patients

- Patient arrives at the Chemotherapy Clinic on the 6th floor
- Patient is accessed by the nurse- review of medications is done at this time
- Patient waits to see the oncology physician
- Patient gets told they need to be admitted
- Patient returns to the registration desk
- Pharmacist is paged to do Medication Reconciliation
- Pharmacist meets patient to complete form and go over medications (20-30 minutes process)
- Pharmacist returns the completed Home Med database to the doctor for his review, approval and signature
- Completed and signed form is then transferred to the inpatient ward along with admission orders from the oncologist
- Direct admissions or admissions from EMG would be done while the RPH is on the unit

Medication Reconciliation

- A process of identifying the most accurate list of all medications including name, dosage, frequency, route a patient is taking and using this list to provide care for a patient in whatever their setting
- Then, comparing the patient's list of current medications against the physician's admission, transfer and/or discharge orders
- Med Rec should be done at each stage of transfer

Med Rec on Admission

4 steps

- ✓ Verification
  - ✓ Collection of the medication history
- ✓ Clarification
  - ✓ Ensuring that the medications and doses are appropriate
- ✓ Reconciliation
  - ✓ Newly prescribed medications are compared against the old ones and changes to pharmacotherapy are documented
- ✓ Transmission/Documentation
  - ✓ The updated and verified list is communicated to the next provider of care

Sources of Information: *Are they Reliable?*

Limitations to sources of information:

- **Community pharmacy** records may be incomplete or incorrect
- **General practitioner** records can lack prescriptions issued by other medical specialties
- **Medication vials** are often incomplete as patients forget some vials or they store drugs that have already been discontinued
- **Information** provided by the patient may be inaccurate due to recall bias, problems with adherence and patients not regarding some preparations as medication
- **Outpatient clinic chart** med list has discrepancies

Family Barriers to Providing Medication Information

- Family does not remember they were asked to bring the medication or deny having been asked
- Family is afraid that the hospital may lose their medication or forget them at discharge
- Patients know why they take a medication but not the name of the medication
- Do not want the hospital to use their medication due to cost
- Forget that puffers, injections, OTC products are medicines that the doctor needs to know
- Patient is not feeling well and his medication list is the last thing on his mind

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Health Professional Expectations

Nursing expectations:

- Prefer pharmacist to do it
- Time saving factor
- Not familiar with all drug names, strengths

Pharmacy observations:

- Incomplete form- no strength of drugs, no attention to timing of medications or days of medication use
- Copy labels from vials but don't interview the patient
- No contact other than the patient source
- Fail to sign the form
- No indication of compliance

Patient information:

- Different information provided to health professionals

Health Professional Expectations

Physician expectations:

- Accurate medication history
- Discrepancies identified and documented
- Identify duplicate medications, write automatic substitution policies when needed
- Identify missed medications
- Identify purpose and duration of steroid therapy
- Identify reason, start and stop times of antibiotics
- Inquiries about non –prescription medications
- Acts as a liaison between the in-patient and out-patient units
- Identify drugs that need dose alterations

Health Professional Expectations

Editing pharmacists/Technicians:

- The form is complete
- Easier to do order entry and identify home meds verified versus home meds not verified or available
- Auto-Sub is written
- Form is signed by the pharmacist and the physician - they know who to approach if follow up is needed

Patient Perspective's

Patient pros:

- Most patient's have a good relationship with their community pharmacist and like the idea of the pharmacist being involved in their care
- Pharmacist takes time to go over the list and explain why medications are being used or encourage them to follow the prescribed dose. The patient may not understand why they are using a medication

Patient Perspective's

Patient con's:

- May need to review the list several times with different health professionals
- Don't understand why we need to do it at each admission since nothing has changed
- Don't want their medications used since they have limited incomes

Home Medication Reconciliation Sheet

Medication Care Plan Manager

Looking Ahead-

- Pharmacy technician involvement
  - Allows the time for more DPC activities
  - Improves their roles and job satisfaction
  - Resident Research project at TMH 2008-2009
    - Comparison of technician versus pharmacist obtained medication history in the Emg department
    - Result: No significant difference between the two in mean number of Rx, OTC discrepancies
    - No significance in the severity of discrepancies performed by either profession
- Electronic medication record
- Pharmacist involvement in discharge medications

Discussion

- Process for inpatient medication reconciliation at TMH
- Focus on the team working for the patients' needs
  - Shared responsibility
- Perspectives/ Expectations of health professionals and patients
- Best practices are not yet defined
  - ***Medication reconciliation is a challenging process and we must continue to improve and look at ways to make it safer for all patients***

2009 | NOPS NOTES

ORAL ANTI-CANCER AGENTS IN THE COMMUNITY SETTING: A SURVEY OF RETAIL PHARMACISTS IN THE PROVINCE OF NEWFOUNDLAND AND LABRADOR

George Dranitsaris, Rick Abbott, Scott Edwards, Jonathan Edwards

Background: Over the past decade, there has been a sharp rise in the approval of orally administered anti-cancer agents. To identify the needs of community pharmacists in the many aspects oral anti-cancer therapy; a survey in the province of Newfoundland and Labrador was conducted.

Methods: A structured electronic mailing strategy was adopted as originally recommended by Dillman (1978). Standardized data collection forms with a covering letter were electronically mailed to 560 practicing community pharmacists who were members of the provincial pharmacists association.

Results: Overall, 220 pharmacists completed the survey for a final response rate of 39%. Approximately 25% of respondents felt comfortable counseling patients on oral anti-cancer agents and only 17% stated that they used protective garments when dispensing such drugs. Only 28% of responding pharmacists were familiar with the common doses of oral anti-cancer therapy. Less than 35% of our sample had attended a continuing education event related to oncology in the past two years and only 35% were familiar with the concept of "targeted therapy".

Conclusions: A substantial portion of community pharmacists in Newfoundland and Labrador do not have a solid understanding of oral anticancer therapy, both in terms of safe handling and dispensing.

Contact Information:
George Dranitsaris
Dr. H. Bliss Murphy Cancer Center

PREVALENCE OF DAPSONE-RELATED METHEMOGLOBINEMIA IN PEDIATRIC ONCOLOGY PATIENTS

Tejinder Bains, Raveena Ramphal, Arianne Philippe

Objective: To determine the prevalence of methemoglobinemia in pediatric oncology patients at our tertiary pediatric institution.

Methods: Retrospective chart review of pediatric oncology patients <18 years of age receiving dapsone as prophylaxis against Pneumocystis jiroveci pneumonia (PCP), at a dose of 4 mg/kg administered once weekly.

Results: Methemoglobinemia documented in 23 pediatric oncology patients on dapsone prophylaxis. Although the majority of the cases were asymptomatic with methemoglobin levels <10%, all 23 cases had peak methemoglobin levels above 2%, the upper limit of normal. Some patients were symptomatic, defined as the presence of cyanosis and/or oxygen saturations < 95% (n = 9), while some required admission to hospital for methemoglobinemia and treatment with supportive care and/or Methylene blue (n = 6).
A separate 3 patients received Methylene blue therapy. G6PD deficiency was excluded in symptomatic patients. Dapsone therapy was discontinued when methemoglobin levels > 5% (n = 19) or for some other reason and/or are now deceased (n = 4).

Conclusions: These results have important clinical implications regarding the ideal choice of drug for prophylaxis of PCP in pediatric oncology patients. Guidelines for the monitoring of Dapsone-associated methemoglobinemia have been developed at our institution.

Contact Information:
Tejinder Bains
Children's Hospital of Eastern Ontario

THE INCIDENCE OF NEUTROPENIC EVENTS AND LOW-DOES INTENSITY IN ADJUVANT BREAST CANCER THERAPY

Carlo De Angelis, Heather Moon, Angie Giotis, Dr. Maureen Trudeau

Objective: Cure is the therapeutic goal in adjuvant breast cancer treatment. Studies have shown that inadequate chemotherapy delivery (dose reductions and dose delays) have a negative impact on overall disease free survival.

Purpose: The purpose of this study was to evaluate the incidence of neutropenic events (neutropenia, febrile neutropenia and hospitalizations). Practitioners' responses to neutropenic events (dose reductions and/or dose delays) for patients undergoing adjuvant breast cancer therapy were also evaluated.

Design: A list of patients receiving their first cycle of adjuvant or neoadjuvant breast cancer therapy at the Odette Cancer Centre during 2008 was generated. A retrospective review was conducted of the 159 patients included in the analysis. Neutropenic events were defined as hospitalizations (due to neutropenia, febrile neutropenia or infection), relative dose intensity <= 85%, or dose delays of >= 4 days.

Results: Eighty two percent of patients receiving taxane-based therapy. Dose delays occurred in 21% of the patients. Of 882 cycles of chemotherapy delivered, 11.4 % of cycles were delivered at relative dose intensities <= 85%. There were 36 hospitalizations due to neutropenic events in 33 patients.

Conclusions: Febrile neutropenia, low RDI and dose delays continue to be problematic in the adjuvant breast cancer population.

Contact Information:
Carlo De Angelis
Odette Cancer Centre - Sunnybrook Health Sciences Centre

THE REASON FOR ADMISSIONS TO AN ONCOLOGY WARD: FOCUS ON TREATMENT RELATED TOXICITY

Carlo De Angelis, Jenna van Draanen, Erica Stacey, Angie Giotis

Objective: To determine the percentage of admissions to an oncology ward attributable to chemotherapy-induced toxicities.

Design: Patients admitted to the oncology ward over a 6 month period were prospectively assessed as to the principle cause of admission (disease related, treatment related or a combination). The rate of admission related to treatment related toxicity will be calculated and the more common treatment related toxicities leading to admission will be assessed.

Results: Between March 01 and August 31, 2008 there were 1062 eligible admissions to the oncology ward. Medical Oncology patients made up 48% of the admissions; 8% of these were admitted for febrile neutropenia, 34% breast and 24% non-Hodgkin's lymphoma patients. 51% had an FN event following their first cycle while 15% of patients had experienced at least 1 previous episode of FN and 15% of the FN patients received GCSF with their chemotherapy, the average length of stay for an FN event was 9.34 days. Further data analysis continues.

Conclusions: Treatment related toxicities are a common cause of admissions to hospital. Admissions to the oncology ward could be reduced is appropriate preventative strategies were implemented in patients at risk.

Contact Information:
Carlo De Angelis
Odette Cancer Centre - Sunnybrook Health Sciences Centre

A HUMAN FACTORS EVALUATION OF CHEMOTHERAPY MEDICATION LABELS

Roxanne Dobish, Shaunna Milly

Objectives:

1. Determine what elements of existing chemotherapy labels are confusing or problematic.
2. Determine what changes to the labels would aid healthcare workers in locating and using information.
3. Determine what elements of proposed prototype labels that incorporate Human Factors principles work in practice.

Design: Twenty-six participants (nursing and pharmacy) participated in the study. Sessions involved completing forms, taking a vision test, handling and inspecting medication labels, and a structured interview. First participants were asked to find information on existing chemotherapy labels. Participants were then asked a series of questions about the labels to identify potential changes. Next participants were shown prototype labels that incorporated human factors principles and were asked the same series of questions.

Results: There was no significant difference in response times between participants from nursing and pharmacy in the timed tasks. During the interviews, issues with existing labels were revealed including problems locating the dose, lack of standardization of placement of the label and printing issues.

Conclusion: Several design changes were recommended to the chemotherapy medication labels such as separating and highlighting key information, changing font, using mixed case and using more white space on the label. Standardization of placement of labels on the products was also recommended.

Contact Information:

Roxanne Dobish
Alberta Health Services - Cross Cancer Institute

ENVIRONMENTAL CONTAMINATION AND OCCUPATIONAL EXPOSURE TO CYTOTOXIC DRUGS IN AN ONCOLOGY PHARMACY SATELLITE

Geneviéve Goulet, Tejinder Bains, Raveena Ramphal, Regis Vaillancourt

Objective: To describe the environmental contamination in an oncology satellite pharmacy. To compare the exposure to cytotoxic agents in personnel handling cytotoxic agents versus those who do not.

Design: Environmental contamination assessed by Cyto Wipe Kit (Exposure Control) and Laboratoire de toxicologie de l'Institut national de santé publique du Québec INSPQ-kit. Work surfaces within oncology pharmacy satellite (n = 6) and main pharmacy dispensary (n = 7) were sampled. Cyclophosphamide occupational exposure evaluated by urine analysis using the Urine Cyto Kit from Exposure Control (n = 7 oncology personnel; n = 5 non-oncology personnel). All samples analysed using gas chromatography-mass spectrometry.

Results: Cytotoxic agents detected in 4 of 6 oncology satellite pharmacy surfaces. These levels of contamination are just above detection limits of the analytical methods. All main pharmacy surfaces tested negative. Urine analysis revealed cyclophosphamide in all participants (mean 37.9 ng/24hr; range 6.0-108.3 ng/24hr), with levels being higher in non-oncology personnel (mean 54.2 ng/24hr; range 30.0-108.3 ng/24hr).

Conclusion: Low levels of environmental contamination by cytotoxic drugs found in an oncology satellite pharmacy. Non-oncology personnel had higher levels of cyclophosphamide versus oncology personnel, suggesting that the primary source of exposure may come from sources other than handling of the drug.

Contact Information:
Geneviéve Goulet
Children's Hospital of Eastern Ontario

PROVINCIAL ELECTRONIC DATA UTILIZATION: SUPPORTING AN OUTCOMES ANALYSIS PROGRAM IN MANITOBA

Kimi Guilbert, Venetia Bourrier, Danica Lister, David Phillips

Background: The Provincial Oncology Drug Program (PODP) ensures provincial standards and financial coverage of intravenous chemotherapy. Included in the mandate is the use of an electronic chart (Aria™) resulting in a prospective database of all chemotherapy delivered in Manitoba.

Objective: To provide a description of the electronic data for use in the Outcomes Analysis Program (OAP) and ensure appropriate linking capabilities exist between Aria™ and other population data.

Design: Three databases are used by the OAP: Aria™ (chemotherapy data), the Manitoba Cancer Registry (demographic and diagnostic data), and the Pharmacy Approval Database. Each database has unique information critical for outcomes analysis. The databases were tested to determine if a cohort can be identified and appropriate demographic, treatment, and outcomes data can be collected.

Results: Using several outcomes projects supported by PODP, data from the three databases can be accurately linked. For each project, specific patient populations were identified using diagnostic, demographic and chemotherapy drug profiles. Outcomes analysis, including drug utilization and survival analysis, were performed using the data.

Conclusion: Linkages between existing databases in Manitoba provide research opportunities for the OAP thereby assisting in the fulfillment of PODP's mandate.

Contact Information:
Kimi Guilbert
CancerCare Manitoba

RETROSPECTIVE REVIEW OF THE USE OF PALLIFERMIN TO PREVENT MUCOSITIS IN MEHATOPOIETIC STEM CVELL TRANSPLANTATION PATIENTS CONDITIONED WITH HIGH-DOSE CHEMOTHERAPY AND TOTAL BODY IRRADIATION

Dana Kennedy, Harry Hopkins, Celine Corman, Pierre Giguere

Rationale: Mucositis is caused by chemotherapy and radiation and is characterized by pain, erythema, and ulceration of the oral mucosa. Palifermin is a keratinocyte growth factor approved for the prevention of mucositis. The primary objective of this study was to compare the proportion, duration, and severity of mucositis in bone marrow transplant patients pre- and post-palifermin treatment.

Methods: Data were collected retrospectively by a chart review on patients who received high-dose chemotherapy and total body irradiation from January 2004 to February 2009 at The Ottawa Hospital. Results were analyzed before and after the introduction of palifermin in August 2006. The severity of mucositis was assessed using the Bearman scale.

Results: Data were collected from 75 patient charts; 34 of which received palifermin. The proportion of patients experiencing mucositis was 97.6% for those who did not receive palifermin and 79.4% for those who received palifermin ($p = 0.02$). Bearman scale grade ≥ 2 mucositis was experienced by 92.7% of patients without palifermin compared to 47.1% with palifermin ($p < 0.001$). Palifermin reduced the median duration of mucositis by 4.0 days ($p = 0.009$).

Conclusion: Palifermin reduced the proportion, severity, and duration of mucositis in this patient population.

Contact Information:
Dana Kennedy
The Ottawa Hospital

IMPLEMENTATION AND EVALUATION OF A DATABASE FOR "NON-FORMULARY" DRUG REQUESTS AT CANCERCARE MANITOBA

Danica Lister, Sri Navaratnam, Venetia Bourrier, David Phillips

Objectives:

- To characterize the quantity and nature of "Non-Formulary" drug requests received
- To quantify projected versus actual utilization/costs for approved requests
- To identify emerging drug treatments requiring formal review at the P & T committee level

Design: The Non-Formulary Drug Request (NFDR) process adjudicates requests for drug treatments for both rare and more common malignancies on a case-by-case basis. Requests are considered for both potential clinical benefit and budget impact. A prospective database for requests was developed and implemented in 2008 and evaluated in 2009.

Results: A total of 305 requests were received in 2008; 274 of these were approved. The projected incremental drug cost of these approvals was approximately $1 million. Actual incremental drug costs were found to be -$348,623 (-35.03%) less. Approvals were provided to 17 different disease sites for 94 different drugs/protocols. Ten of these (10.6%) went onto to be formally reviewed at the P & T committee to date. A total of 12 drugs/protocols (12.8%) were requested 5 or more times throughout 2008.

Conclusions: This database has become a valuable reference for the consistent practice of NFDR review, generation of NFDR statistics, and projection of potential budget impact of emerging anticancer drug therapies.

Contact Information:

Danica Lister
CancerCare Manitoba

THE IMPACT OF A SHORTENED INFUSION OF BEVACIZUMAB: SAVINGS IN CHEMOTHERAPY CHAIR TIME WITHOUT ADDITIONAL TOXICITY

Helene Bourget-Letarte, Derek Jonker, Shellyza Moledina

Background: The complexity and success of chemotherapy treatments has increased significantly in the last few years, resulting in increasing demands on chemotherapy chair time. With the approval of each new cancer treatment, the same question arises: how can we accommodate the extra chair time needed to infuse the new medication within a chemotherapy treatment unit that is already at capacity?

Bevacizumab is a 90 % humanized monoclonal antibody targeting circulating Vascular Endothelial Growth Factor. Because of initial hypersensitivity reaction concerns, a 90-60-30 minute infusion sequence was developed and approved for the administration of the first 3 doses of bevacizumab. A recent large case series from the Memorial Sloan-Kettering Cancer Centre suggested that a bevacizumab dose of 5mg/kg can be infused safely over 30 minutes, and then over 10 minutes.

Objectives: To observe the safety and the impact on chemotherapy chair time of a 0.5mg/kg/min bevacizumab infusion at The Ottawa Hospital Cancer Centre (TOHCC).

Design: An 8-month "feasibility study" was first conducted in 2007 to assess the safety of infusing bevacizumab 5mg/kg over 30 minutes. No reaction to bevacizumab was reported during the "feasibility study". A recommendation was then made to move forward with a new infusion rate for bevacizumab at 0.5mg/kg/min.

Results: One hundred sixty-four patients received a total of 1,302 bevacizumab doses from February 2008 to June 2009. Patients were treated with a bevacizumab dose of 5 mg/kg (86.6%), 7.5mg/kg (12.8%) or 10mg/kg (0.6%). The majority of patients were treated for colorectal cancer (96.9%) and breast cancer patients counted for 3.1% of all patients. No bevacizumab related reactions were observed during the study period. A total of 617.25 hours of chemotherapy chair time was saved during the same period, representing 36.3 hours per month and approximately 109 minutes per working day.

Conclusions: The implementation of a shortened infusion of bevacizumab (0.5mg/kg/min) has resulted in a 73.4% reduction of chemotherapy chair time at TOHCC. This change did not result in any new infusion reactions with bevacizumab.

Contact Information:
Helene Bourget-Letarte
The Ottawa Hospital Cancer Centre

PLAN FOR CLINICAL PHARMACY SERVICES IN CAPITAL HEALTH CANCER CARE PROGRAM

Larry Broadfield, Claudia Harding

Objective: Oncology pharmacists in Capital Health provide clinical services to cancer patients in all ambulatory clinics and inpatients units. The team decided to compare our practices with those in other cancer centres and to develop a 3-year plan for service improvements.

Design: The team reviewed clinical practice literature, and visited 3 cancer centres in Ontario. We held a retreat to determine specific objectives and projects to develop our services.

Results: The Plan includes short-term and long-term objectives. Enabling strategies include the development and implementation of a Clinical Support Technician position for each ambulatory satellite (with restructuring of the daily workflow for increase direct patient care time by the pharmacist). Functional duties will be re-organized (e.g. processing clinical trials orders on each unit instead of centralized to a single unit) and symptom management algorithms are under development. Standardization of regimen-specific order verification worksheets and teaching tools for patient education are planned. We plan to develop a pharmacist-run Pharmacotherapy Clinic with new position(s).

Conclusions: The Plan will be reviewed and updated annually. It is included as a best-practice model in the overall clinical plan for the district Pharmacy Department.

Acknowledgements to the entire oncology pharmacy team for this Plan.

Contact Information:
Larry Broadfield
Capital District Health Authority

THE MODEL FOR ONCOLOGY CLINICAL PHARMACY SERVICES AND EDUCATION – STRATEGIC PLAN FOR NOVA SCOTIA AND BEYOND…

Larry Broadfield

Objective: Pharmacists across Nova Scotia offer a variety of clinical services, often based upon historic practices and individual initiatives. To evolve towards a comprehensive system, a strategic plan was needed, with objective practice criteria practice, and supporting educational programs for these pharmacists.

Design: The Model for Oncology Clinical Pharmacy Services and Education was developed. This hierarchal Model is based upon core pharmacists competencies for fundamental activities (e.g. chemotherapy order verification, medication error prevention), and additional clinical competencies for pharmacists providing direct patient care. Care delivery will be provided consistent with the NS Systemic Therapy Levels of Care.

To achieve this Model, pharmacists require post-entry level education. Programs to provide the skills, competence and knowledge for each level are proposed in the Model.

Results: The Model is open for stakeholder input. The educational programs for chemotherapy preparation, and order verification (entering pilot phase in Jan, 2010) are established. A network of oncology pharmacists has been formed towards implementation of this Model.

Conclusions: A prospectively-designed Model will guide the individual practitioners and the cancer agency to work together to prepare each pharmacist for a defined clinical role with appropriate education.

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DISPENSING GEORGRAPHIES: UNDERSTANDING THE REALITIES OF DISTANCE, TELEHEALTH, AND ONCOLOGY PHARMACY PRACTICE IN NORTHERN BRITISH COLUMBIA

Dana Cole, Sarah DeLeeuw, Ashley Baker, Jessica Wilford

Background: Northern Health services a geographic region comprising almost two-thirds of BC. In September 2008, Northern Health began using telehealth to assist with chemotherapy preparation in locales equipped to deliver chemotherapy but lacking a pharmacist to perform checks of the chemotherapy preparations. Currently, seven sites participate in and contribute to telehealth oncology pharmacy services in northern BC.

Design: Telephone interviews were conducted with 37 health care professionals providing oncology services. Interviews were conducted by two medical students in July 2009.

Results: The interviewees included one patient, one patient caregiver, sixteen pharmacy technicians, seven pharmacists, nine registered nurses, and three general practitioner oncologists. Results suggest the health professionals and patients feel positively about telehealth, believing it allows patients to receive chemotherapy in their home communities.

Conclusion: Telehealth oncology pharmacy services are clearly fulfilling a need in the Northern Health region. However, challenges around scheduling, delays, safety, and confidentiality were identified. If these challenges are addressed, telepharmacy for oncology may become more streamlined and efficient. This would provide a valuable service to the Northern Health region population and enable healthcare professionals caring for oncology patients to communicate easily with each other.

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BEVACIZUMAB IN COMBINATION WITH FOLFIRI CHEMOTHERAPY IN PATIENTS WITH METASTATIC COLORECTAL CANCER (MCRC): AN ASSESSEMENT OF SAFETY AND EFFICACY IN THE PROVINCE OF NEWFOUNDLAND AND LABRADOR (NL)

Scott Edwards, Jonathan Edwards, Rick Abbott, George Dranitsaris

Background: In 2005, bevacizumab was approved by Health Canada for patients with mCRC. NL was one of the first provinces to fund this agent in combination with FOLFIRI chemotherapy. In this analysis, the entire bevacizumab patient sample was assessed for overall safety and efficacy.

Methods: The medical records of 43 CRC patients who had received FOLFIRI with bevacizumab were reviewed. Following each cycle, toxicity outcomes such as GI perforations, bleeding, diarrhea, myelosuppression and venous thromboembolic events (VTEs) were collected and graded using the NCI common toxicity criteria (V 3.0).

Results: Overall, 398 cycles of anticancer therapy were administered in the 43 patients. There were no GI perforations identified. However, there were four bleeding events (9.3%), three requiring the permanent discontinuation of bevacizumab. There were also six serious VTEs (13.9%), three of which required a hospital admission. In addition, the cumulative incidence of grade III/IV diarrhea and febrile neutropenia was 11.6% and 2.3%. Median time to treatment failure and overall survival was 6.3 and 24.4 months respectively.

Conclusions: Bevacizumab appears to be well tolerated for the most part and efficacy is consistent with trial reports. However, patients should be closely monitored to avoid potentially serious events such as bleeding and VTEs.

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THE IMPORTANCE/EFFECTIVENESS OF A PHARMACIST IN THE PALLIATIVE CARE CLINIC

May Lam, Annie Ngan, Lori MacKinnon, Carlo DeAngelis

Objective: Pharmacists at the Odette Cancer Centre have been involved with the Palliative Care Clinic for over 3 years. Besides provision of drug information, the pharmacist in the clinic obtains a complete list of medications, complementary and alternative medicines, evaluates their appropriateness and effectiveness and assists in clarifying any changes of medications to patients. The aim of this project was to establish the importance/effectiveness of the pharmacist in the clinic.

Design: A questionnaire was developed to obtain the opinions of Palliative Care Clinic staff and patients interviewed by the Pharmacists. The study was introduced and consent obtained at the beginning of the pharmacist interview.

Results: In the preliminary result, all physicians (N = 20) reported that the information on patients' medication usage provided by the pharmacists was accurate and up-to-date; also pharmacist involvement in patient visits made them more efficient and effective. To date 20 patients have been interviewed; 76% reported that meeting with the pharmacist first prepared them for a better interview with the physician and 100% of the patients reported that pharmacists answered their medication questions to their satisfaction.

Conclusion: The pharmacist plays a significant role in the clinic, and is a valuable member of the clinical team.

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REVIEW OF UTILIZATION OF TRASTUZUMAB IN THE ADJUVANT TREATMENT OF BREAST CANCER IN FOUR UNIVERSITY TEACHING HOSPITALS IN QUEBEC: A 2-YEAR FOLLOW-UP OF THE FIRST YEAR OF USE

Nathalie Letarte, Celine Dupont

Trastuzumab is used in adjuvant treatment of Her-2 over-expressing breast cancer. In 2005, the Therapeutic Drug Management Program wrote guidelines to promote optimal use of trastuzumab for adjuvant treatment of breast cancer. Preliminary results were presented at ASCO in 2008.

Objectives: Measure conformity of trastuzumab use in the adjuvant setting and evaluate cardiotoxicity and outcomes.

Methods: Review of pharmacy databases was performed to identify patients receiving trastuzumab between June 2005 and May 2006. Patiens medical record were reviewed.

Results: 91 patients received trastuzumab. 93% of patients received it every 3 weeks. Patients received 16 doses over a eleven-month period. Twenty patients had to discontinue treatment; 11 for cardiotoxicity, 3 for other adverse events and 2 for progression. Three patients temporarily stopped trastuzumab because of reduced LVEF but were able to complete treatment. After a median follow-up of 751 days, progression-free survival was 80% and overall survival was 99%. Five patients developed brain metastasis, one during therapy.

Conclusions: This review shows an overall good compliance with practice guidelines. More cardiotoxicity was observed than previous reports. PFS data were similar to those from previous studies. Recommendations were made to better monitor and document cardiac function.

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BREAST MILK CONCENTRATIONS OF DOXORUBICIN AND DOXORUBICINOL IN A FEMALE PATIENT WITH HODGKIN'S LYMPHOMA: CASE REPORT AND KINETIC STUDY

Mark Paseka, Ivan Tyono, Scott Walker, Carlo DeAngelis

Objective: To characterize the mammary excretion of doxorubicin and doxorubicinol in breast milk after treatment with chemotherapy in a lactating patient.

Summary: A 30 year old female patient was diagnosed two weeks post partum with classic Hodgkin's lymphoma, nodular sclerosing type. She was treated with the ABVD (adriamycin [doxorubicin], bleomycin, vinblastine, and dacarbazine) chemotherapy regimen. The patient desired to breast feed her infant and queried as to when, after receiving chemotherapy, she could resume this. A literature review produced no useful results that could answer this question.

Design & Results: Twenty nine breast milk samples were collected over 15 days and the levels of doxorubicin and doxorubicinol were measured using high performance liquid chromatography (HPLC) and fluorescence detection. Doxorubicin was present in breast milk samples taken after chemotherapy from day one to ten whereas the metabolite was measurable up to day 14 post chemotherapy. The terminal half-life of doxorubicin and doxorubicinol was 80 hours in breast milk. Metabolite concentrations were consistently found to be higher than the parent compound after approximately 16 hours.

Conclusion: Breast milk concentrations of doxorubicin and doxorubicinol were not detectable 15 days after chemotherapy. This may indicate an appropriate time to resume breast feeding.

Contact Information:
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CHARACTERIZATION OF MEDICATION HISTORY TAKING AT AN OUTPATIENT CANCER CENTRE: A RETROSPECTIVE ANALYSIS

Mark Paseka, Carlo DeAngelis, Yoo Joung Ko, Maureen Trudeau

Introduction: Inaccurate documentation of patient medication histories may lead to inappropriate treatment and patient harm. A retrospective review to document the prevalence and completeness of medication histories taken at the Odette Cancer Centre (OCC) was performed.

Design: A retrospective analysis was conducted for the 2006-2007 calendar year. Randomly selected outpatients receiving systemic anticancer therapy for the first time were included. Prevalence rates of medication history as well as demographic characteristics were analyzed using descriptive statistics.

Results: A total of 1120 patients were included in the analysis of which 35.2% were male and 64.7% were female; and the average age was 58.3 years. The most common types of cancer encountered were breast (16.96%) and prostate (10.00%). The number of medications per patient ranged from 0-13 and the average was 3.02. Medication lists were present for 44.2% and absent for 37.3% of patients; additionally, the oncologist indicated the patient was on no medication 18.5% of the time. Medical residents and general practitioner oncologists were shown to complete medication histories more often than were either medical fellows or attending physicians.

Conclusion: Approximately one in three patients at the OCC does not have a documented medication history. Analysis of the data is ongoing.

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THE INCIDENCE OF DOCETAXEL INFUSION REACTIONS AT THE SASKATOON CANCER CENTRE

Collen Olson, Elyse Thomas, Colleen Thurber

Introduction:

In Saskatchewan, chemotherapy is prescribed by physicians at one of the two primary cancer centres in the province; The Allan Blair Cancer Centre in Regina and the Saskatoon Cancer Centre in Saskatoon. As the province is very large geographically, patients have to travel relatively long distances to reach one of the primary cancer centers. In an attempt to improve cancer patient care and access The Community Oncology Program of Saskatchewan (COPS) has been developed. The primary goal of COPS is to provide cancer patients with care, treatment and support in or near their home communities. Currently, we have 16 COPS centres located across the province which are part of the community hospital in each location. A certified COPS centre has nurses , pharmacists and pharmacy technicians, who have been specifically trained to provide care for cancer patients. The overall management and prescribing of treatment remains the responsibility of a cancer centre physician.

The Saskatchewan Cancer Agency has developed a list of oncology drugs which are approved for administration in a COPS centre. Approval for administration in a COPS centre is based on a number of factors including; safety, cost and frequency. Currently docetaxel is not on the COPS list. Rationale for not including docetaxel is based on the safety profile and the cost of discarding partial vials in a tertiary centre if multiple patients were not being treated on the same day.

As the cancer agency has been receiving requests to have docetaxel chemotherapy administered in COPS centres, we wanted to review the safety data from our own records.

Design:

- Using the Saskatoon Cancer Centre pharmacy computer system, all patients were identified who received docetaxel from January 1 2008 thru December 31 2008. A manual retrospective chart review of the patients paper chart was preformed for all identified docetaxel patients.
- A total of 127 charts were identified and reviewed. An excel spreadsheet was used to record data. We recorded the following information for each patient: disease site, allergies, pre-medications, sex, total number of doses, did a reaction occur during the infusion, what cycle number(s) a reaction occurred if there was one, line of therapy and home town location in the province.
- The standard pre medication regimen for docetaxel every 3 weeks is dexamethasone 8mg PO BID, at Days -1, 0 and +1. The policy at our centre is that the correct pre medication must have been taken prior to docetaxel administration or patients are rebooked. The dexamethasone prescription is filled at the Saskatoon Cancer Centre Pharmacy and provided free of charge to patients. Compliance with the pre medication regimen is confirmed by the chemotherapy nurse asking the patient and documenting in the chart.
- Docetaxel infusion reactions were identified by the presence of a standard hypersensitivity reaction order sheet and corresponding documentation in the nursing notes.

Discussion:

- Of the 127 charts that were reviewed, 14 reactions were documented
- 8/14 reactions occurred at Cycle #1; all 8 of these patients continued on docetaxel without infusion reaction occurrences at subsequent cycles
- 5/14 reactions occurred at Cycle #2; all 5 patients had received cycle 1 without an infusion reaction, all 5 patients continued on docetaxel without infusion reaction occurrences at subsequent cyles
- 1/14 reactions occurred at Cycle #6; this patient received 5 previous cycles without incidence and subsequently went on to receive 5 more cycles with docetaxel without incidence
- The incidence between males and females was the same
- The experience at the Saskatoon Cancer Centre with docetaxel infusion reactions occurring in 11% of patients overall is consistent with what is reported in the literature

Conclusions:

- The occurrence of docetaxel infusion reactions can be expected and are predictable
- The reactions are most likely to occur during the first or second dose the patient receives
- Patients who do experience a reaction are likely to continue on treatment without subsequent reactions in the future
- The administration of docetaxel in a COPS centre for cycles #3 and beyond could be considered safe

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THE IMPACT OF AN ORAL ANTI-CANCER TOXICITY ASSESSMENT PROGRAM

Andrew Collins, Lynn Hartery, Scott Edwards, Rick Abbott, Jonathan Edwards

Background: To minimize the occurrence and severity of side effects caused by oral anti-cancer agents the oncology pharmacist at the Dr. H. Bliss Murphy Cancer Center in St. John's, Newfoundland and Labrador developed the oral anti-cancer toxicity assessment program.

Methods: From September 2008 to September 2009 a oncology pharmacist met with oncology patients receiving oral anti-cancer agents (sorafenib, sunitinib, erlotinib, temozolamide) prior to the initiation of their therapy and then monthly prior to their Medical Oncology (MO) appointment. At this time the patient was assessed using a toxicity assessment tool that was developed at the Dr. H. Bliss Murphy Cancer Center Pharmacy Department to determine if they were experiencing any toxicities or adverse drug reactions (ADRs) from their oral anti-cancer treatment. Telephone follow-ups were scheduled for those patients that were experiencing toxicities and/or ADRs.

Results: A total of 111 toxicities and/or ADRs were identified by the oncology pharmacist. Drug interactions were one of the main areas where the oncology pharmacist had the largest impact (n = 17). Rash (n = 12), compassionate access (n = 18), diarrhea (n = 8), nausea (n = 8), constipation (n = 9) and GERD (n = 7) are among some of the other toxicities and/or ADRs that were identified and resolved by the oncology pharmacist.

Conclusions: Our experience in implementing toxicity assessments for our oral anti-cancer patients has been beneficial for patients receiving oral anti-cancer therapy in Newfoundland and Labrador. Due to the success of this program expansion to include oral anti-cancer agents is expected.

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THE EVALUATION OF THE SATISFACTION LEVEL OF PATIENT'S RECEIVING ADJUVANT BREAST CANCER CHEMOTHERAPY POST-PARTICIPATION WITH A PHARMACIST LED BREAST CANCER MONITORING PROGRAM

Scott Edwards, Sarah Strong, Jonathan Edwards, Rick Abbott

Background: Adjuvant breast cancer patients treated at the Dr. H. Bliss Murphy Cancer Center in St. John's, Newfoundland and Labrador, completed a satisfaction survey after the completion of their chemotherapy to determine their levels of satisfaction with the pharmacy directed breast cancer toxicity assessment program. Patients answered a series of questions that evaluated which components of the program were well received and which components needed improvement.

Objectives: (1) To acquire the necessary data to establish the need for a pharmacy lead breast cancer monitoring program. (2) To determine what aspects of the program need improvement and what aspects were successful upon implementation. (3) To determine if a similar monitoring program could be initiated in other disease sites.

Methods: Patient's satisfaction with a pharmacist lead breast cancer monitoring program in the acute treatment of local adjuvant breast cancer were extracted from a survey used to document and assess various components of the treatment program. The survey was composed of 5 main sections, as follows: (1) Patient satisfaction with information regarding cancer treatment. (2) Patient satisfaction with information regarding side effects. (3) Patient satisfaction with information regarding vitamins, herbals and complementary therapy (4) Satisfaction with information sources and the way information is provided. (5) Overall satisfaction with the breast cancer monitoring program. Patients rated the various statements within the sections on a scale ranging from strongly agree, agree, neutral, disagree and strongly disagree.

Results: Within Section 1, 98.5% of patients choose strongly agree or agree as their response. Within Section 2, 100% of patients choose strongly agree or agree as their response. Within Section 4, 99.0% of patients choose strongly agree or agree as their response. Within Section 5, 99.0% of patients choose strongly agree or agree as their response. However, within Section 3, 76.7% of patients choose strongly agree or agree as their response. There were 23.3% of patients within Section 3 that were either neutral or disagreed.

Conclusion: The results of this satisfaction survey highlight the importance of this pharmacist directed toxicity assessment monitoring program to adjuvant breast cancer patients treated at the Dr. H. Bliss Murphy Cancer Center. However, the pharmacist should reiterate to the patient those questions related to vitamins, herbals and complimentary therapies.

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THE IMPACT OF A MULTIDISCIPLINARY TOXICITY ASSESSMENT MONITORING PROGRAM WITHIN AN AMBULATORY CAPECITABINE-RADIATION ONCOLOGY CLINIC

Scott Edwards, Meghan Wall, Jonathan Edwards, Rick Abbott

Background: Patients at the Dr. H. Bliss Murphy Cancer Center with high risk resectable rectal carcinoma are treated using a combined modality of chemotherapy and radiation. Oral capecitabine is given at a dose of 825 mg/m2 twice daily for six weeks concurrently with radiation. Traditionally at the Dr. H. Bliss Murphy Cancer Centre these patients were given a prescription for the entire 6 weeks which potentially increased the risk of adverse events. In January 2009 a multidisciplinary team was formed to create a weekly monitoring program for this patient population. This study was implemented to determine the difference between the patients who were not part of the weekly monitoring program (control patients) versus those who were followed in this program weekly (intervention patients).

Methods: Patients were identified who received oral capecitabine and radiation concurrently in the adjuvant rectal setting. Original prescriptions and radiation information were found on patient charts. Meditech was used to retrieve blood work and visit history (emergency room (ER) visits, hospital admissions). OPIS (Oncology Patient Information Software) was useful for finding pertinent patient information, and reviewing notes entered by medical oncologists. Information was analyzed and subsequently reviewed by an oncology pharmacist.

Results: A total of 81 patients were examined in this review, 46 of which constituted the control group and the remaining 35 patients made up the intervention group. Both groups received an average dose of 1500mg. Prior to pharmacist intervention there was an incidence of 23.9% ER visits, and 17.4% of patients were admitted to hospital; upon the implementation of the weekly multidisciplinary capecitabine/radiation clinic these numbers dropped to 11.4% and 8.6% respectively. The implementation of the weekly multidisciplinary capecitabine/radiation clinic increased the frequency of dosing adjustments from 10.9% up to 28.6%. There were more delays in therapy in the intervention group when compared to the controls, a rise from 13% up to 20%. A final endpoint measured was the number of patients who discontinued therapy; the weekly multidisciplinary capcitabine/radiation clinic decreased this rate from 17.4% to 11.4%.

Conclusions: The implementation of a weekly multidisciplinary capecitabine/radiation monitoring clinic reduced hospital admissions and ER visits for adjuvant rectal cancer patients.

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IMPLEMENTING TELEPHARMACY IN A COMMUNITY CANCER NETWORK – THE ALBERTA EXPERIENCE

Gordon HL, Hoeber M, Schneider A

Objective: To establish a telepharmacy service for intravenous chemotherapy order review and preparation at community cancer centers where a pharmacist is not available on site.

Methods: The reliability of syringe reading in the biological safety cabinet during preparation via telepharmacy was verified for 5 commonly used syringe sizes. Policies and procedures were adopted, a training program developed, and staff taught. Training was evaluated by participants. Infrastructure was put in place and mobile telepharmacy equipment deployed to 2 coordinating centers and 2 remote centers. The study period comprised January 1, 2008 to August 31, 2008. A number of parameters to evaluate utilization were recorded. A satisfaction survey was completed by clients, physicians, nurses, and pharmacy staff.

Results: Accuracy of syringe reading via telepharmacy was carried out by 19 participants at 8 locations. The 99.9 % Confidence Interval expressed as a percent of the actual volume varied according to the size of syringe used and did not exceed 2 %. Initially 4 pharmacy staff members were trained in telepharmacy and 100 % indicated they felt able to provide competent and safe pharmacy services via telepharmacy. Two remote center technicians used telepharmacy to prepare intravenous chemotherapy in conjunction with their corresponding coordinating center pharmacists. Over the 8 month study period 49 Albertans received chemotherapy during 109 visits to the remote centers. An estimated 44,580 km of travel was avoided. Out of the completed satisfaction surveys 100 % of the patients (22/22), nurses and physicians (28/28) and pharmacy staff (60/60) preferred telepharmacy to treatment delay.

Conclusions: Telepharmacy was successfully implemented in a community cancer network allowing preparation of intravenous chemotherapy and subsequent treatment in the absence of a pharmacist on site.

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2010 National Oncology Pharmacy Symposium
www. capho.org

Join us in Winnipeg for NOPS 2010

Planning has already begun for the 2010 NOPS being held in Winnipeg, Manitoba. The dates for the meeting are October 15th to 17th, 2010. The meeting venue has been secured and the conference will be held at the luxurious Fairmont Winnipeg. The Fairmont is located at the world famous corner of Portage Avenue and Main Street and is bounded by the historical Exchange district, the Forks as well as St. Boniface, the city's French quarter. The Forks, so named because of its position where the Assiniboine River flows into the Red River has a long rich history of early Aboriginal settlement as well as the fur trade. Today, The Forks is a vibrant downtown Winnipeg setting where people gather for celebrations, recreation and fun. It encompasses a river walk, an interpretive park, revitalized historic and new buildings and is the site of the Canadian Museum for Human Rights that is currently under construction.

Winnipeg has a long tradition of throwing great parties, including the Pan Am games on two different occasions, many Grey cups as well as many curling events and the Junos. Mark your calendar now and prepare to join us in Winnipeg in October 2010 for a fantastic conference.

Pat Trozzo

Pat Trozzo, NOPS 2010 co-chair.

2010 Symposium national sur la pharmaco-oncologie 2010
www. capho.org

Joignez-vous à nous à Winnipeg pour le SNPO 2010

Nous avons déjà commencé à planifier le SNPO 2010, qui aura lieu à Winnipeg, au Manitoba, du 15 au 17 octobre 2010, au luxueux hôtel Fairmont Winnipeg. Le Fairmont est situé au légendaire coin de l'avenue Portage et de la rue Principale, à proximité du quartier historique de la Bourse, de La Fourche et du quartier français St-Boniface. La Fourche, ainsi nommée en raison de son emplacement, à la croisée de la rivière Assiniboine et de la rivière Rouge, a une longue et riche histoire de réserves autochtones et de commerce de fourrure. Aujourd'hui, La Fourche est un lieu dynamique du centre-ville de Winnipeg; les gens s'y rassemblent pour célébrer, se divertir et s'amuser. Elle abrite un sentier pédestre longeant la rivière, un parc d'interprétation, des bâtiments historiques restaurés et des édifices modernes. Le Musée canadien des droits de la personne, actuellement en construction, s'y trouve également.

Winnipeg est l'hôte d'événements renommés. Elle a notamment accueilli les Jeux panaméricains à deux reprises, plusieurs finales de la Coupe Grey, de nombreux tournois de curling et des soirées de remise des prix Juno. Inscrivez le SNPO 2010 à votre agenda et préparez-vous à vous joindre à nous en octobre l'an prochain pour un symposium mémorable.

Pat Trozzo

Pat Trozzo, coprésident du SNPO 2010

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