Education Lecture 1:
Pharmacokinetics in Cystic Fibrosis Patients

Presenter: Jackson Wong

October 20, 2012

Duration: 1 hour

Format: Lecture

SPEAKER CONTACT:
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SPEAKER BIOGRAPHY:
Jackson obtained his Bachelor in Medicine and Surgery from the University of London in 1987 and went on to further training in pediatrics, pediatric respiratory medicine and lung transplantation at multiple centres in the UK and Australia. Jackson has twelve years of experience in pediatric and adult cystic fibrosis and lung transplantation in tertiary and quaternary international centers and has extensive experience in the use of CF medications. He is the founding director of the Pediatric Lung Transplant Program at the Stollery Children’s Hospital and is involved with multiple national and international transplantation organizations.

Abstract:
The goal of this session is to provide pharmacists with an understanding of therapeutic goals and an awareness of the impact of pharmacokinetics in drug delivery and dosing in patients with cystic fibrosis (CF). Examples of well established and more novel medical therapies in CF will be used to illustrate pharmacokinetic principles. Oral, intravenous and inhaled medications in CF will be discussed in addition to special situations such as pre and post double lung transplantation.
**Goals and Objectives:**

To develop an understanding of the therapeutic and pharmacokinetic principles of:

1. Intravenous aminoglycosides (tobramycin)
   - Alternation in drug absorption, volume of distribution and elimination by renal and non-renal clearance.
   - One compartment vs. two compartment model, extended interval dosing compared with three times daily dosing, therapeutic drug monitoring, concentration dependent killing, post antibiotics effect and assessment of nephrotoxicity.

2. Oral macrolides (azithromycin)
   - Macrolide induced disruption of cell-to-cell signaling process (quorum sensing), anti-inflammatory activities, four compartment model pharmacokinetics, intracellular vs. plasma vs. sputum drug concentrations will be discussed.

3. Inhaled antibiotics (aztreonam and tobramycin)
   - Clinical utility of inhaled antibiotics in CF patients, the impact of different delivery tools on pharmacokinetics, plasma and sputum concentration.

4. Pharmacokinetics of IV tobramycin in CF pre- and post double lung transplant patients.

**Self-Assessment Questions:**

1. What are the pros and cons of using extended interval dosing of intravenous tobramycin in patients with CF?

2. How do oral macrolides work in CF patients and do they need higher doses than non-CF patients?

3. What are the different delivery tools available for inhaled antibiotics therapy in CF patient? Are they interchangeable?

4. Should post lung transplant patients receive the same dose of IV tobramycin given pre-transplantation?
References


6. Aminimanizani A, Beringer PM, Kang J, Tsang L, Jelliffe RW, Shapiro BJ. Distribution and elimination of tobramycin administered in single or multiple daily doses in adult patients with cystic fibrosis


Education Lecture 2:

Making Sense of AT9 - Review of the 2012 ACCP Antithrombotic Guidelines

Presenter: Cynthia Brocklebank

October 20, 2012

Duration: 45 minutes

Format: Lecture

SPEAKER CONTACT:

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SPEAKER BIOGRAPHY:

Cyndy has worked with the Calgary Zone outpatient anticoagulation program in some capacity since 1999. In October 2002, she coordinated the expansion of the local Anticoagulation Clinic to a fully regionalized Anticoagulation Management Service, including all of Calgary’s adult acute care sites. She transitioned to a new role in September 2010, working in Chronic Disease Management, but maintains an active practice in anticoagulation. She has her additional prescribing authority in Alberta, is certified to administer injections, and has recently become a certified diabetes educator.

Abstract:

Earlier this year the American College of Chest Physicians (ACCP) published their 9th edition of Antithrombotic Therapy and Prevention of Thrombosis guidelines. These guidelines are the backbone for anticoagulation and disease management policies and protocols, and inform direct patient care decisions. This latest edition is different from past versions in many ways. There has been a revision of the development methodology of these guidelines with emphasis on rigorously examined, good quality evidence that affects important patient outcomes. An effort has been made to address financial and intellectual
conflict of interest, patient values and preferences and to include front-line clinicians directly in development.

The purpose of this presentation is to highlight some of the changes in the 2012 ACCP Antithrombotic Guidelines, with emphasis on venous thromboembolism treatment and prevention, new oral anticoagulants in atrial fibrillation and management of anticoagulation therapy.

Goals and Objectives:

1. To inform pharmacists of some key changes in the ACCP Antithrombotic Guidelines 9th edition.

2. To examine some of the controversies resulting from changes in the most recent antithrombotic guidelines.

3. To assist pharmacists in applying the antithrombotic guideline recommendations to their patient care practice.

Self-Assessment Questions:

1. Should all patients managed on warfarin therapy, with a critical INR result > 5.0 but no reported bleeding, be given vitamin K to help correct the elevated INR?

2. What would you recommend to a patient who has been on a stable dose of warfarin for the past 4 months who asks if they still need to go to the lab for INR tests once a month?

3. A 52 year old man comes to your pharmacy looking to buy low dose (81 mg) ASA, on questioning you learn he has no heart disease, and no history of bleeding problems, what do you recommend?

References:


Education Lecture 3:

Medication Related Emergency Department Visits

Presenter: Matt Mink

October 20, 2012

Duration: 1 hour

Format: Lecture

SPEAKER CONTACT:

Matt Mink, BSP, ACPR, CSPI, CGP
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SPEAKER BIOGRAPHY:

Matt obtained his pharmacy degree from the University of Saskatchewan and completed a hospital pharmacy residency in Regina. He joined the Poison and Drug Information Service (PADIS) in 2001, where he continues to work as a pharmacist and educator. In addition to managing the care of poisoned patients, he has practiced in long term care and has an interest in geriatric pharmacotherapy and holds a certification in geriatric pharmacy. In the past, Matt has been an instructor with the Bredin Institute’s International Pharmacy Bridging program, as well as Bow Valley College’s Pharmacy Technician program.

When not working at PADIS, Matt enjoys travel, playing golf and eating anything with bacon.

Abstract:

The goal of this session is to provide pharmacists with an overview of medication related emergency department visits. Participants will gain insight on factors associated with pharmacotherapy that may place patients at risk for a medication related emergency department visit.
Medication related visits to the emergency department are an important contributory cost to the health care system. Adverse drug events account for millions of visits annually in North America. Numerous retrospective and prospective reviews have been conducted within various sectors of the health care system in order to characterize the scope of this problem. These reviews have varied in design; making applicability for front line providers, such as pharmacists, difficult.

Geriatric patients are a group who are at increased risk of medication related emergency department visits. Polypharmacy, age related changes in pharmacokinetics and physiology, as well as having multiple comorbidities are some of the reasons for the high use of emergency department services in older patients.

Acute and chronic poisoning by medication represents an underappreciated reason for visits to the emergency department. Several key assessment and management principles apply in caring for these patients.

Pharmacists are well positioned to identify potential adverse drug events in patients before and after presentation to the emergency department. Several pharmacy driven initiatives are providing encouraging trends towards patient safety.

Goals and Objectives:

1. To provide pharmacists with an understanding of the incidence, severity and preventability of medication related emergency department visits.
2. To enable pharmacists to identify patient populations associated with high risk of requiring a medication related emergency department visit.
3. To review programs and interventions which may promote medication safety and decrease the risk of a medication related emergency department visit.

Self-Assessment Questions:

1. Which medications are commonly implicated as causes of emergency department visits?
2. What factors put geriatric patients at high risk of drug related emergency department visit and hospitalization?
3. What are the roles of ipecac, activated charcoal and common antidotes in drug related poisoning?

4. What can I do in my practice as a pharmacist to prevent medication related emergency department visits?

References:


Pharmacy Showcase: Enhancing customer satisfaction with Pharmacy Services in a province-wide healthcare organization

Presenter: Ian Creurer

October 20, 2012

Duration: 15 minutes

Format: Lecture

SPEAKER CONTACT:

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SPEAKER BIOGRAPHY:

Based in Red Deer, Ian has worked with Alberta Health Services or its predecessor organizations since 1996. Prior to that, he worked in Saskatoon, Kelowna and Halifax. Roles have included staff pharmacist, Drug Information and Drug Use Evaluation pharmacist, Adverse Drug Reaction reporting coordinator, front line manager, and health region director. His current position of Executive Director, Practice Development and Integration within AHS Pharmacy Services includes oversight of Clinical Practice and Technical Practice development, Drug Information and Drug Utilization Evaluation, Process Improvement, and Integration initiatives (such as rural Telepharmacy).

Ian is a member of the national CSHP 2015 Steering Committee. Other past activities and roles include Presidential Officer of CSHP-AB, chair of the Alberta College of Pharmacy’s Pharmacy Technician Regulation Working Group, and member of the Pharmacy Technician Programs Accreditation Committee.

Abstract:

This session describes a methodology to enhance nursing satisfaction with Pharmacy Services in a provincial organization. Determining unmet customer needs is an important first step in enhancing satisfaction. Based on this
feedback, an improvement initiative that is meaningful to customers and also feasible to develop and deliver can be selected.

In our organization, focus groups were conducted. Twenty-six sessions were held at 18 hospitals, with 165 nurses participating; ten major themes were identified. From this feedback, an initiative was selected that was deemed to be applicable across the diverse practices and wide dispersal of staff in Alberta Health Services (AHS). The initiative selected was to improve nurse awareness and access to drug information resources.

Development of materials and processes was undertaken by a small working group. This included a presentation and a toolkit. The presentation described how to access and use available drug information resources. The toolkit guided pharmacy staff in organizing and delivering the presentation to nurses. Delivery depended entirely on pharmacy staff volunteering to give the presentation to their nursing colleagues. 102 presentations were made in 48 sites across the province, with 1121 nurses attending. Evaluation demonstrated increased nursing awareness and likelihood of using drug information resources.

This initiative addressed a nurse-identified need, to support better patient care. In addition, interaction and dialogue was promoted between front line pharmacy and nursing staff.

Goals and Objectives:

1. To provide an overview of methods used to identify and address customer needs.

2. To enable pharmacy managers and staff to effectively plan and deliver initiatives to enhance customer satisfaction.

Self-Assessment Questions:

1. What step should be taken prior to selecting a customer service improvement initiative?

2. What measures can be taken to increase chances of successful implementation of an improvement initiative?

References:

Education Lecture 5:

Pharmacy Showcase: CAMESA Guidelines- Evidence Based Guidelines for Monitoring Safety of Second Generation Antipsychotic (SGAs) in Children and Youth

Presenter: Rekha Jabbal

October 20, 2012

Duration: 15 minutes

Format: Lecture

SPEAKER CONTACT:

Rekha Jabbal, BSP
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SPEAKER BIOGRAPHY:

Rekha has been CPL for Child and Adolescent mental health since 2007. She developed monitoring guidelines in Calgary prior to the CAMESA guidelines, and is a member of the CAMESA working group. She currently works closely with the project’s physician-lead to increase clinicians knowledge of these guidelines.

Abstract:

The goal of this session is to provide pharmacist with an overview of the CAMESA guidelines, and the process of guideline development.

The use of second generation antipsychotics (SGAs) in children and adolescents has increased by 114% from 2005-2009. These medications have the potential to cause major metabolic complications (weight gain, hyperlipidemia, hypertension, increase body mass index and hyperglycemia) with chronic use. The Canadian Alliance for Monitoring Effectiveness and Safety of Antipsychotics (CAMESA) in Children guideline group have published evidence based guidelines for children and youth 18 years of age or younger who have been prescribed an SGA medication for the treatment of a mental health disorder.
Not only do these guidelines provide clinicians a systematic approach to monitoring patients, but they also provide management recommendations for the metabolic and neurological complications associated with SGAs.

**Goals and Objectives:**

1. To discuss the rationale for the development of the CAMESA guidelines
2. To describe the process for guideline development
3. To provide a review of the recommendations generated
4. Briefly describe the work that is being done for the adult population

**Self-Assessment Questions:**

1. Briefly describe some of the adverse effect of SGAs?
2. What are some of the recommended monitoring activities?
3. Where can clinicians and families find more information on the guidelines?

**References:**


Education Lecture 6:

An Update on the Post-Professional Doctor of Pharmacy Program

Presenters: Michelle Foisy and Ann Thompson

October 20, 2012

Duration: 20 minutes

Format: Lecture

SPEAKER CONTACT:
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Ann Thompson, BScPharm, PharmD
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SPEAKER BIOGRAPHY:

Michelle is currently the Director of the Post-Professional PharmD program and Clinical Associate Professor at the University of Alberta. She is also a clinical pharmacist in HIV with the Northern Alberta Program in Edmonton. Her training includes a BScPharm at the University of Alberta, a hospital pharmacy residency at the Ottawa General Hospital and a PharmD from the State University of New York at Buffalo. Over the past 20 years she has held clinical and teaching positions in hospital and ambulatory practice in Ottawa, Toronto and Edmonton, with a focus on HIV and Infectious Diseases. In the 1990’s she held a Faculty position with one of the first PharmD programs in Canada at the University of Toronto. She has precepted a variety of pharmacy learners including undergraduate students, residents and PharmD students. In 2010, she joined the Faculty of Pharmacy at the University of Alberta where she coordinated the fourth year Advanced Therapeutics course, and more recently has accepted a new position as Director of the Post-Professional PharmD program.
Ann is currently the Director of the Experiential Education program and Clinical Assistant Professor at the University of Alberta. She is also a clinical pharmacist in hypertension with the University of Alberta Hypertension Clinic. Her training includes a BScPharm from Dalhousie University, a hospital pharmacy residency at the QEII Hospital in Halifax, and a PharmD from the University of Colorado. Over the past 15 years, she has been involved with teaching and precepting pharmacy students, residents, and medical students. In 2010, she joined the Faculty of Pharmacy at the University of Alberta as the Director of Experiential Education. She continues to teach hypertension in the undergraduate cardiology curriculum as well as develop and deliver preceptor training opportunities.

Abstract:

The goals of this session are to provide pharmacists with information on the new Post-Professional Doctor of Pharmacy (PharmD) degree offered at the University of Alberta and to promote preceptorship for the experiential rotations of the program.

The proposed PharmD program was developed in light of current trends in health care and expectations for pharmacists in its delivery. As pharmacy education transitions from the Bachelor of Science in Pharmacy (BScPharm) to the Entry-Level PharmD degree in Canada, there is a need to offer the PharmD credential to pharmacists who are currently in practice. The Post-Professional PharmD program is a 12-14 month program designed to achieve the 2010 Educational Outcomes for First Professional Degree Programs in Pharmacy published by The Association of Faculties of Pharmacy of Canada (AFPC). The program focuses on the clinical skills required for the provision of optimal patient-centered care and enhanced preparation for pharmacists’ increased scope of practice, additional prescribing authority, and contributions to team-based interprofessional care. The program consists of 18 credits of classroom courses (5 courses) and up to 36 weeks of experiential training in various practice settings including acute care, interprofessional team-based care, ambulatory and community practice. The emphasis for the experiential program is providing students with the opportunity to develop more proficiency and independence in applying their patient care knowledge and skills. The experiential education courses were designed to provide students with flexibility for choosing rotations in practice settings that align with their career goals and interests. Preceptor and practice site criteria have been developed to identify preceptors with patient-centered practices.
Goals and Objectives:

1. To provide pharmacists with information on the new Post-Professional PharmD degree offered by the University of Alberta.

2. To provide pharmacists with information on the experiential education program and preceptorship opportunities within the PharmD program.

3. To provide a forum for discussion of the new post-professional PharmD program with institutional pharmacists.

Self-Assessment Questions:

1. What are the proposed educational outcomes of the Post-Professional PharmD program?

2. How can pharmacists in practice serve as preceptors in the PharmD program?

References:


Education Lecture 7:

Bugs & Drugs Update: What’s New?

Presenter: Susan Fryters

October 20, 2012

Duration: 1 hour

Format: Lecture

SPEAKER CONTACT:

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Antimicrobial Utilization/Infectious Diseases Pharmacist
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SPEAKER BIOGRAPHY:

Susan is an Antimicrobial Utilization/Infectious Diseases Pharmacist with Alberta Health Services in Edmonton, Alberta. She graduated with distinction from the University of Alberta Faculty of Pharmacy in 1990, completed her hospital pharmacy residency at the University of Alberta Hospital in 1991, and has worked at the Royal Alexandra Hospital in Edmonton since then in the area of antimicrobial utilization with a clinical practice in infectious diseases. Susan focuses on utilization and evaluation of antimicrobials, and education regarding appropriate use of these valuable drugs.

Susan is also the co-author of Bugs & Drugs, a book written to promote appropriate antibiotic utilization and prevent the development of resistance. The fifth edition of this reference will be distributed soon to pharmacists, physicians and dentists, as well as healthcare professional students, in Alberta and British Columbia and beyond. Susan Fryters is also the Pharmacist Coordinator of the Do Bugs Need Drugs? program, an educational program to address antimicrobial resistance, and a pharmacist consultant in Antimicrobial Utilization.
Abstract:

The goals of this session are to provide pharmacists with an update of what’s new in the Bugs & Drugs antimicrobial reference and to discuss with pharmacists their role in antimicrobial stewardship.

In its fifth edition, the Bugs & Drugs book is a comprehensive, evidence-based reference for physicians, dentists, pharmacists and nurse practitioners in Alberta, BC, and elsewhere in Canada. It provides health care practitioners with the latest recommendations for the appropriate use of antimicrobials and the optimal treatment and prevention of infectious diseases. As such, it is a key component of antimicrobial stewardship efforts and since pharmacists play a key role in antimicrobial stewardship programs, it is important that they are aware of what’s new and what’s changed in the management of infectious diseases so they can help optimize patient outcomes and minimize the unintended consequences of antimicrobial use, including toxicity, superinfections, resistance, and unnecessary costs.

Appropriate use of antibiotics in the hospital setting is critical since:
- Over 50% of patients in hospital receive antibiotics during their stay – at least 50% unneeded in most studies.
- Antimicrobials comprise the single largest category of drug expenditures in Alberta Health Services hospitals at approximately 20% of the drug budget.
- Antimicrobial resistance is increasing, leading not only to increased costs of patient care but also to increased morbidity and mortality.

Goals and Objectives:

1. To review key changes in the Bugs & Drugs book so that pharmacists are aware of updated recommendations for the prevention and management of infectious diseases.

2. To discuss with pharmacists their role in antimicrobial stewardship - ensuring appropriate antimicrobial use in order to curb antimicrobial resistance.

Self-Assessment Questions:

1. As a hospital pharmacist, what is my role in antimicrobial stewardship?

2. How can I use the Bugs & Drugs book in my daily practice to optimize the care of patients with infectious diseases?
3. What are some of the key changes in the management of infectious diseases that I should be aware of?

References:


Education Lecture 8:

Professional Liability and the Expanded Scope of Practice

Presenter: Eleanor Olszewski

October 20, 2012

Duration: 45 minutes

Format: Lecture

SPEAKER CONTACT:

Eleanor Olszewski, Q.C., LL.B., BScPharm
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SPEAKER BIOGRAPHY:

Eleanor is a partner at the law firm of McPherson Leslie & Tyerman, LLP practicing out of the Edmonton office. She obtained her pharmacy degree with distinction from the University of Alberta, worked as a pharmacist and subsequently obtained a law degree.

Eleanor was a sessional lecturer at the Faculty of Pharmacy at the University of Alberta for many years. In addition, she has been a speaker at continuing education pharmacy conferences sponsored by RxA. She has defended pharmacists when allegations of negligence have been made against them and when complaints have been made resulting in disciplinary charges. She has many years of experience as a litigator, appearing before all levels of court in Alberta as well as numerous administrative tribunals.

Abstract:

Over the past few years, much has changed insofar as the practice of pharmacy is concerned. Alberta pharmacists can assess and order lab values, adapt, prescribe and inject. This expansion in practice necessarily means that some responsibilities and obligations have and will continue to change. This session seeks to explain the impact of some of these changes from a legal perspective, with a focus on those pharmacists who practice in a hospital setting.
Goals and Objectives:

1. To provide describe basic legal negligence principles that apply to pharmacists.
2. To appreciate how those principles will be applied to pharmacists who practice in a hospital setting, in light of the expanded scope of practice.
3. To discuss strategies for avoiding or managing the risk of legal liability.

Self-Assessment Questions:

1. What are the elements of a negligence action against a pharmacist?
2. What has changed, in light of the expanded scope of practice?
3. What steps can I take in my pharmacy practice in order to reduce the risk of legal liability in light of these changes?