3rd Annual Nurse Practitioners of Oregon Pharmacology Update
April 6, 2013
8:00 am - 3:30 pm
Alan P. Agins, PhD

Session 1: Making Sense of Cytochrome P450 and its Clinical Relevance
Cytochrome P450 is responsible for the metabolism and subsequent clearance of a vast number of therapeutic drugs. It is also one of the most common players in drug-drug interactions and for genetic differences in drug responses. In this presentation we will first discuss why it exists in the first place, where it exists, how it works and the different clinical fates of drug metabolites. We will then examine the processes of enzyme induction and inhibition and their potential to cause different types of drug interactions (with specific examples). Finally we will discuss genetic polymorphism and its potential to impact drug safety or efficacy.

At the conclusion of this program, the participant will be able to:
● Define the physiological and pharmacological roles of cytochrome P450
● Describe the enzymatic process and clinical impact of cytochrome P450-dependent drug metabolism.
● List the major isoforms or subtypes of the cytochrome P450 enzymes that metabolize drugs
● Recognize the clinical ramifications of enzyme induction, inhibition and genetic polymorphism.

Session 2: Update on Respiratory Pharmacology: COPD, Asthma, Allergic Rhinitis
In this presentation we will review and update the etiology, pathophysiology and basic and clinical pharmacology associated with the respiratory tract diseases COPD, asthma and allergic rhinitis including newly approved drugs and any recent guidelines changes

At the conclusion of this program, the participant will be able to:
● Describe the risk factors, etiology and pathophysiology of COPD and Asthma
● Define basic and clinical pharmacology of the various classes of medications used for treating COPD, Asthma and allergic rhinitis
● Discuss COPD and Asthma treatment guidelines regarding the uses, priorities and combinations of bronchodilators and inhaled corticosteroids (ICS)
● Describe how spirometry is used to diagnose and differentiate COPD from Asthma and the role of select medications in that process.
● Recognize the potential benefits and disadvantages of at least three recently approved medications for the treatment of obstructive airways diseases and allergic rhinitis.

Session 3: Update on Anticoagulant and Antiplatelet Drugs
The past three years have seen a lot of additions to the anticoagulant arsenal with the approval of three new oral anticoagulants as well as a new antiplatelet drug. In this presentation we will briefly review the basics of hemostatis and thrombosis and then compare and contrast the basic and clinical pharmacology of the newer agents and discuss their various roles in clinical practice.

At the conclusion of this program, the participant will be able to:
- Recall the basic principles of hemostasis
- Describe the basic and clinical pharmacology of the new oral Factor Xa inhibitors
- Discuss the basic and clinical pharmacology of the new oral direct thrombin inhibitor
- Compare new oral anticoagulant medications to warfarin
- State the differences between the irreversible platelet ADP receptor blockers and the new competitive inhibitor ticagrelor

Session 4: Drug Interactions: Let me count the ways
In this presentation we will look at the types, mechanisms and clinical implications of drug-drug interaction that occur at both the pharmacokinetic and pharmacodynamic levels. We will also examine the potential for certain foods, beverages, lifestyle habits and dietary supplements to interact with prescription medications.

At the conclusion of this program, the participant will be able to:
- Discuss the two major clinical outcomes of drug interactions with other substances.
- Describe the mechanisms for pharmacokinetic drug interactions at the level of absorption, distribution, metabolism and elimination.
- List three drugs that may have altered metabolism due to cigarette smoking, alcohol consumption or grapefruit juice.
- Identify a number of pharmacodynamic drug interactions that may occur as a result of additive effects between drugs or between drugs and dietary supplements.

Requirements for Successful Completion of this CNE Activity:
In order to obtain a Certificate of Successful Completion for 6.0 pharmacology contact hours, the learner must complete the following criteria:
- Complete the registration process with the Nurse Practitioners of Oregon
- Sign the Verification of Attendance Form at the registration desk
- Be present no later than 10 minutes after starting time of this activity
- Remain until the scheduled ending time
- Submit your online evaluation form at www.NPOregon.org or www.AcuteCareEd.com

Conflict of Interest for Planners & Faculty:
- Planners and Presenter declare no conflicts of interest in the development and implementation of this educational activity.

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