HIV/AIDS Review for the Pharmacy Technician

FACULTY
Jeannette Wick, RPh, MBA, FASCP
Assistant Director, Office of Pharmacy Professional Development and Visiting Instructor
University of Connecticut School of Pharmacy
Storrs, CT

UAN: 0430-0000-18-015-H02-T
Credits: 2.0 hours (0.20 ceu)

GOAL
This activity’s goal is to provide basic information about HIV and its treatment to pharmacy technicians, and help them recognize the most common problems that patients living with HIV experience.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Summarize the epidemiology, modes of transmission, and most frequent complications of HIV/AIDS
2. List prevention methods and infection control practices for HIV infection
3. Describe the HIV lifecycle and clinical management of HIV infection
4. Identify types of antivirals used to treat HIV and resources to identify drug interactions
5. Review HIV testing-related requirements of the Florida Omnibus AIDS Act.

Questions, Questions, Questions: Influenza Takes the Nation by Storm

FACULTY
Jeannette Wick, RPh, MBA, FASCP
Assistant Director, Office of Pharmacy Professional Development and Visiting Instructor
University of Connecticut School of Pharmacy
Storrs, CT

UAN: 0430-0000-18-012-H01-T
Credits: 1.5 hours (0.15 ceu)

GOAL
To educate pharmacy technicians on the 2017-2018 influenza season, treatment and preventative measures.
EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Describe** 2017-2018 influenza season’s epidemiology and the 2017-2018 influenza vaccine’s efficacy
2. **Describe** influenza symptoms and potential complications
3. **List** the CDC criteria for antiviral drug use in individuals who have or are at risk for influenza infection
4. **List** preventative measures for patients who have influenza and households in which they live

Implementing and Providing Transitions of Care Among Health Care Settings

FACULTY

**Julianna Burton, PharmD, BCPS, BCACP, FCSHP**
Assistant Chief of Pharmacy
Department of Pharmacy
University of California-Davis Medical Center
Sacramento, CA

**Pamela Mendoza, PharmD**
Transitions of Care Pharmacist
Department of Pharmacy
University of California-Davis Medical Center
Sacramento, CA

UAN: 0430-0000-16-044-H04-T
Credits: 2.0 hours (0.20 ceu)

GOAL
Inform and educate pharmacists and pharmacy technicians about transitions of care and the need for collaboration with other health care professionals as patients transition from one health care setting to the next and provide resources, tools, and key components for implementing and/or improving transitions of care as suggested in primary literature and governing bodies.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Describe** different transitions of care (TOC) models and barriers to effective TOC among care settings;
2. **Explain** components of medication reconciliation, including methods for obtaining the best possible medication history;
3. **Outline** a plan to introduce transitions of care in health systems and key elements to obtain administrative buy-in; and
4. **List** financial options to support transitions of care.

2017-2018 Influenza Season: A Review for Pharmacists and Pharmacy Technicians

FACULTY

**Clark Kebodeaux, PharmD, BCACP**
Clinical Assistant Professor
GOAL
To provide information on historical and new trends in influenza immunization that impact patient care, including updated recommendations provided by the Advisory Committee on Immunization Practices for the 2017-2018 influenza season.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Define current and historical trends that impact influenza immunization recommendations
2. Describe the Advisory Committee on Immunization Practices recommendations and updates that guide current influenza immunization practices
3. Recognize appropriate influenza immunization-related recommendations for patients in special populations
4. Identify appropriate communication techniques to support influenza immunization recommendations

Pharmacy Calculations for Pharmacy Technicians: Concentrations, Dilutions and Drug Dosing

FACULTY
Casey J. Covrett, PharmD, BCPS
Freelance Medical Writer
Wilmington, North Carolina

REVIEWER/CONTENT ADVISOR
Laura K. Stinson, PharmD
Owner and Director of Clinical Operations
The Stinson Pen, LLC
Lexington, KY

Editorial Note: Contributions to educational materials: Material released August 20, 2014 through August 20, 2017 under ACPE UAN 0430-0000-014048-H04-T developed and written by Casey Covrett, PharmD, BCPS. Updated with additional writing and references in 2017 by Laura K. Stinson, PharmD

GOAL
The goal of this activity is to improve the pharmacy technician’s ability to solve math problems related to drug concentrations, dilutions, and individualized drug dosing.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Apply the method of alligation when mixing solutions or solids with different percent strengths;
2. Perform liquid and solid dilution calculations expressed in terms of weight-volume (w/v)
and weight-weight (w/w);
3. Calculate patient-specific drug doses based on ideal body weight, body surface area, and adjusted body weight;
4. Utilize the aliquot method in pharmacy compounding when appropriate; and
5. Verify IV flow rates to enhance patient safety.

USP General Chapter <800>: A Pharmacy Professional’s Guide to Handling and Compounding Hazardous Drugs

FACULTY
Patricia C. Kienle, RPh, MPA, FASHP
Cardinal Health Innovative Delivery Solutions
Angela G. Long, MS, MPH
RightInsight

UAN: 0430-0000-17-060-H07-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To present information on the practice issues, standards, and regulatory framework related to the handling of and compounding hazardous drugs.

LEARNING OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. State the purpose of the United States Pharmacopeia Chapter <800>, to whom it applies, and in what locations
2. Identify the document that must be used to identify hazardous drugs
3. Define the process for establishing an assessment of risk
4. Cite the types of engineering controls appropriate for use with hazardous drugs
5. List the type of environmental monitoring used to detect hazardous drug contamination

Pharmacy Calculations for Pharmacy Technicians: Units of Measurement and Methods of Calculation

FACULTY
Casey J. Covrett, PharmD, BCPS
Freelance Medical Writer
Wilmington, North Carolina

REVIEWER/CONTENT ADVISOR
Laura K. Stinson, PharmD
Owner and Director of Clinical Operations
The Stinson Pen, LLC
Lexington, KY

Editorial Note: Contributions to educational materials: Material released July 1, 2014 through July 1, 2017 under ACPE UAN 0430-0000-014-027-H04-T developed and written by Casey Covrett, PharmD, BCPS. Updated with additional writing and references in 2017 by Laura K. Stinson, PharmD
GOAL
The goal of this activity is to enhance the pharmacy technician’s familiarity with calculations performed in the traditional pharmacy practice setting.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Determine quantities based on the Roman numeral system;
2. Solve pharmacy-based math problems using dimensional analysis, fractional equations, and ratio-proportion methods of calculation;
3. Accurately convert units between metric and household systems of measurement; and
4. Calculate a day’s supply of both oral solid and liquid dosage forms.

Emergency Contraception: Key Concepts for the Pharmacy Technician

FACULTY
Laura Borgelt, PharmD, FCCP, BCPS, NCMP
Associate Dean of Administration and Operations and Professor
Departments of Clinical Pharmacy and Family Practice University of Colorado Anschutz Medical Campus
Skaggs School of Pharmacy and Pharmaceutical Sciences
Aurora, CO

UAN: 0430-0000-17-052-H01-T
Credits: 2.0 hours (0.20 ceu)

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Compare and contrast various methods of emergency contraception (EC) including their efficacy, mechanism of action, contraindications, dosing, potential drug interactions, and adverse effects;
2. Explain ongoing legislation regarding access and prescription status of EC;
3. Identify when EC would be recommended to a patient seeking EC; and
4. Identify when to refer patients for counseling with the pharmacist.

USP General Chapter <797>: A Guide to Sterile Compounding for Pharmacy Personnel

FACULTY
Patricia C. Kienle, RPh, MPA, FASHP
Cardinal Health Innovative Delivery Solutions
Angela G. Long, MS, MPH
RightInsight

UAN: 0430-0000-17-041-H04-T
Credits: 2.0 hours (0.20 ceu)
GOAL
To present requirements for establishing and maintaining policies, facilities, and personnel needed for production of sterile compounded preparations in accordance with laws, regulations, and standards in the United States.

LEARNING OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. List the key regulations, standards, and enforcement bodies for sterile compounding.
2. Identity the types of primary engineering controls used for nonhazardous and hazardous sterile compounding.
3. State the two physical tests that must be successfully completed by compounders and the frequency the tests must be performed.
4. Differentiate viable and nonviable testing for compounding facilities.
5. List the work practices required when compounding sterile preparations.

Keeping up with Supply and Demand: Pharmacy Inventory Management

FACULTY
Laura K. Stinson, PharmD
Owner and Director of Clinical Operations
The Stinson Pen, LLC
Lexington, KY

UAN: 0430-0000-17-052-H01-T
Credits: 2.0 hours (0.20 ceu)

Editorial Note: Contributions to educational materials: Material released January 2015 through January 2017 under ACPE UAN 0430-0000-015-003-H04-T developed and written by Casey Covrett, PharmD, BCPS. Updated with additional writing and references in 2017 by Laura K. Stinson, PharmD.

UAN: 0430-0000-17-034-H04-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To educate pharmacy technicians about effective and efficient inventory control practices in order to limit spoilage and improve patient care.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Understand key inventory terminology and how it applies to daily practice;
2. Summarize steps to appropriately manage inventory when new drugs gain market entry and during brand-to-generic transitions;
3. Identify positive and negative events that affect inventory; and
4. Outline the goals of inventory management.
The Expanding Role of the Pharmacy Technician—MTM and Vaccination Support

FACULTY

Michael D. Hogue, PharmD, FAPhA, FNAP
Professor and Chair
Department of Pharmacy Practice
McWhorter School of Pharmacy, Samford University
Birmingham, Alabama

UAN: 0430-0000-17-013-H04-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To review the roles of the pharmacy technician in medication therapy management and vaccination support.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Identify the core elements of the medication therapy management process;
2. Describe how a pharmacy technician can assist pharmacists to enable optimal patient care as part of the medication therapy management process;
3. Articulate positive verbal queues which facilitate pharmacist-patient interaction resulting in vaccination of the patient; and
4. Describe the pharmacy technician’s role in appropriate vaccine storage and handling, pre-vaccination patient screening, and post-vaccination documentation and follow-up.

A Systems Approach to Improving Medication Safety

FACULTY

Donna Horn, RPh, DPh
Director, Patient Safety–Community Pharmacy
Institute for Safe Medication Practices
Horsham, PA

UAN: 0430-0000-17-034-H04-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To educate pharmacy technicians about effective and efficient inventory control practices in order to limit spoilage and improve patient care.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Use the Institute for Safe Medication Practices’ (ISMP)”Key Elements of the Medication Use System” to identify and prevent risk in daily practice;
2. Describe how to analyze a medication error using a specific set of steps and associated tools to identify contributing factors and root causes of the event;
3. **Specify** how to use information gathered during root cause analysis to minimize the reoccurrence of medication errors;
4. **Select** effective error reduction strategies that can prevent patient harm and engage in practices that ensure patient safety.

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**Maximizing Patient Interaction at the Pharmacy Counter:**
**OTC Medications for Allergic Rhinitis and the Common Cold**

**FACULTY**

*W. Steven Pray, PhD, DPh*

Bernhardt Professor of Pharmacy  
Southwestern Oklahoma State University School of Pharmacy  
Weatherford, Oklahoma

**UAN:** 0430-0000-17-010-H01-T  
**Credits:** 2.0 hours (0.20 ceu)

**GOAL**

The goal of this activity is to prepare pharmacy technicians to assist pharmacists by eliciting appropriate and useful information from patients complaining of allergic rhinitis or the common cold.

**EDUCATIONAL OBJECTIVES**

Upon completion of this activity, participants should be better able to:

1. **Describe** the etiologies of allergic rhinitis and the common cold;
2. Recall the various manifestations of allergic rhinitis and the common cold;
3. **Gather** the information needed to allow the pharmacist to recognize whether a patient has allergic rhinitis or the common cold;
4. **List** the various nonprescription products and devices used to treat symptoms of allergic rhinitis and the common cold; and
5. **Recognize** various contraindications and warnings for nonprescription products for allergic rhinitis and the common cold.

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**Pharmacy Technician Review: Nonprescription Analgesics for Headache and Common Conditions Causing Pain**

**FACULTY**

*W. Steven Pray, PhD, DPh*

Bernhardt Professor of Pharmacy  
Southwestern Oklahoma State University School of Pharmacy  
Weatherford, Oklahoma

**UAN:** 0430-0000-17-009-H01-T  
**Credits:** 2.0 hours (0.20 ceu)

**GOAL**

To prepare pharmacy technicians to assist pharmacists by eliciting appropriate and useful information from patients complaining of headache and other common conditions causing pain.
EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Describe etiologies of headache, including types of headaches and accompanying symptoms or situations that require immediate referral;
2. Gather the information needed to allow the pharmacist to recognize self-treatable headaches and common conditions causing pain;
3. Recognize appropriate products that might provide relief for a specific type of self-treatable headache or common condition causing pain; and
4. List various contraindications and warnings for nonprescription products commonly recommended for headache and other common conditions causing pain.

Out With the Old! The Importance of Safe and Responsible Disposal of Medication

FACULTY
Kimberly A. Burns, RPh, JD
Professor
Lake Erie College of Osteopathic Medicine (LECOM) School of Pharmacy
Erie, Pennsylvania

UAN: 0430-0000-17-008-H03-T
Credits: 2.0 hours (0.20 ceu)

GOAL
The purpose of this program is to provide updated information on the topic of medication disposal. This information can be used by pharmacy providers, including pharmacy technicians, while assisting patients, caregivers, and the community.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Describe current environmental concerns surrounding improper medication disposal;
2. Relate how improper medication disposal is correlated to prescription drug abuse;
3. Review current options available to dispose of unused medications;
4. Identify current legal considerations regarding medication disposal; and
5. Describe the role of pharmacy providers in medication disposal.

Regulation of over-the-counter Drugs

FACULTY
Gerald Gianutsos, PhD, BSc Pharm, JD
Associate Professor of Pharmacology
University of Connecticut, School of Pharmacy Department of Pharmaceutical Sciences
Storrs, Connecticut

UAN: 0430-0000-17-007-H03-T
Credits: 2.0 hours (0.20 ceu)
GOAL
The goal of this lesson is to review for pharmacy technicians the regulatory oversight of Over-The-Counter (OTC) drugs and the risk of misuse and abuse of OTC drugs.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Describe** the background behind the distinction between prescription and OTC drugs and criteria used to differentiate them;
2. **Explain** the process for approval of OTC drugs;
3. **Discuss** the misuse of OTC drugs, especially as it applies to analgesics;
4. **Identify** the problem of OTC drug abuse;
5. **Describe** the type of restrictions that can be placed on OTC drugs to limit misuse and abuse; and
6. **Describe** the abuse liability of selected nonprescription products including pseudoephedrine, dextromethorphan, loperamide, diet drugs and e-cigarettes.

Medication Safety: The Role of the Technician in Preventing Medication Errors

FACULTY
*Jennifer L. Gibson, PharmD*
Freelance Writer and Editor
Marietta, Georgia

UAN: 0430-0000-17-006-H05-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To review the origin and types of medication errors and to explain the role of the pharmacy technician in improving medication safety.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Describe** the impact of medication errors;
2. **Review** barriers and vulnerabilities to medication safety in multiple pharmacy settings;
3. **Define** pharmacy technician responsibilities in the medication-use process;
4. **List** strategies for preventing medication errors and enhancing patient safety; and
5. **Identify** mechanisms for reporting errors.

Why do Drugs Affect People Differently? Understanding Factors that Influence Drug Responses

FACULTY
*Casey J. Covrett, PharmD, BCPS*
Medical Writer
Wilmington, North Carolina
GOAL
To enhance the pharmacy technician’s awareness of the multiple factors that influence individual responses to medications.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Recall** the mechanisms involved in food-drug interactions;
2. **Explain** why drugs must be used cautiously in patients with underlying disease states;
3. **Describe** the mechanisms and potential outcomes of drug-drug interactions; and
4. **Recognize** the influence of gender and genetics in drug responses.

Appropriate use of Self-monitoring Devices: The Pharmacy Technician’s Role

FACULTY
Jeannette Wick, RPh, MBA, FASCP
Visiting Professor
University of Connecticut, School of Pharmacy
Storrs, Connecticut

GOAL
To improve the pharmacy technician’s ability to locate and utilize appropriate drug information resources in pharmacy practice in order to help the pharmacist respond to questions from consumers and other health care professionals in an effective, efficient manner.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Discuss** the importance of measurements for the diagnosis of disease as well as determining disease severity, progression, and treatment response;
2. **Identify** patients with specific medical conditions who might benefit from disease-specific monitoring supplies;
3. **Discuss** accuracy and limitations of 5 types of monitoring tools;
4. **Distinguish** between type 1 and type 2 diabetes mellitus; and
5. **Evaluate** the significance of patient-measured monitoring results and understand when to recommend a pharmacist consultation.
Knowing Where to Find Key Drug Information—Understanding Drug Resources

FACULTY
Michelle Bryson, PharmD, BCPS
Clinical Assistant Professor
Drug Information Group
Department of Pharmacy Practice
University of Illinois at Chicago, College of Pharmacy
Chicago, Illinois

UAN: 0430-0000-17-004-H04-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To improve the pharmacy technician’s ability to locate and utilize appropriate drug information resources in pharmacy practice in order to help the pharmacist respond to questions from consumers and other health care professionals in an effective, efficient manner.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Define tertiary, secondary, and primary literature;
2. Identify key features and limitations of common tertiary resources;
3. List resources used to evaluate the effectiveness and quality of a website containing health information;
4. Describe the FDA regulations for mobile medical applications; and
5. Apply the systematic approach to answer a drug information request.

Common Childhood Illnesses: Considerations for the Pharmacy Technician

FACULTY
Jennifer L. Gibson, PharmD
Freelance Writer and Editor
Marietta, Georgia

UAN: 0430-0000-17-002-H05-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To enhance the pharmacy technician’s understanding of common illnesses in pediatric patients, as well as the unique physiological characteristics of this population, in order to improve medication safety and patient care calculations performed in the traditional pharmacy practice setting.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Describe the body composition and physiological characteristics of pediatric patients and how these factors influence drug use and safety;
2. **Recall** common sources of medication errors in pediatric patients;
3. **Identify** common childhood illnesses and the medications used to treat them; and
4. **List** recent changes to the labeling and regulation of pediatric drug products.

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**Current Topics in Sterile Compounding: The Drug Quality and Security Act**

**FACULTY**

*Erin Albert, MBA, PharmD, JD, PAHM*
Health Outcomes Pharmacist – Myers and Stauffer, LC
CEO – Pharm, LLC Indianapolis, IN

*Angela V. Ockerman, BS, RPh, PharmD*
Butler University College of Pharmacy and Health Sciences
Indianapolis, IN

UAN: 0430-0000-16-085-H03-T
Credits: 2.0 hours (0.20 ceu)

**GOAL**

To present information on the laws and oversight governing compounding pharmacies and newly designated outsourcing facilities.

**EDUCATIONAL OBJECTIVES**

Upon completion of this activity, participants should be better able to:

1. **Discuss** the issues that led to the introduction and passage of the Drug Quality and Security Act (DQSA);
2. **List** the provisions for compounding and outsourcing facilities stipulated in the DQSA;
3. **Compare** and contrast the definitions of compounding and outsourcing facilities provided in Sections 503A and 503B of the Federal Food, Drug & Cosmetic Act (FDCA); and
4. **Describe** the process for becoming an outsourcing facility under Section 503B of the FDCA.

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**Zika Virus and its Effects in Pregnancy**

**FACULTY**

*Ruth P. Ebiasah, PharmD, MS*
National Institutes of Health
National Institute of Allergy and Infectious Diseases
Bethesda, Maryland

*Thucuma K. Sise, PharmD, BCPS*
National Institutes of Health
National Institute of Allergy and Infectious Diseases
Bethesda, Maryland

*Michelle Wildman, PharmD*
National Institutes of Health
National Institute of Allergy and Infectious Diseases
Bethesda, Maryland
GOAL
To educate pharmacists and pharmacy technicians about the effect of Zika infection during pregnancy, modes of transmission, signs and symptoms of infection, and preventive measures.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants will be better able to:
1. Describe the characteristics of Zika virus and its various modes of transmission.
2. Recognize the clinical presentation of Zika infections, including signs and symptoms, and discuss the tools used to definitively diagnose a Zika infection.
3. Identify the potential complications that could affect the fetus as a result of Zika infection during pregnancy.
4. Counsel patients on important information about Zika virus, including preventive measures for avoiding exposure to infection.

Medical Marijuana:
Pharmacologic and Regulatory Considerations

FACULTY
Gerald Gianutsos, PhD, JD
Associate Professor of Pharmacology
School of Pharmacy University of Connecticut
Storrs, CT

GOAL
To provide an understanding of the pharmacology, effects, side effects, and potential clinical uses of marijuana constituents and to provide a basis for the appreciation of the controversy and legal issues surrounding state and federal programs that attempt to regulate the availability of marijuana for medical and non-medical uses.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. List the potential therapeutic applications of marijuana;
2. Describe the effects of marijuana on the central nervous system and other organ systems;
3. Recognize the advantages and disadvantages of different natural and synthetic cannabinoids and routes of administration;
4. Describe the differences and similarities among states that permit marijuana to be used for medical purposes; and
5. Analyze the controversy between state and federal law as it applies to marijuana and the historical context of regulation.
The Utility of Root Cause Analysis and Failure Mode and Effects Analysis in the Hospital

FACULTY

Jennifer Gibson, PharmD  
Medical Writer  
President of Excalibur Scientific  
Marietta, Georgia

UAN: 0430-0000-15-062-H05-T  
Credits: 2.0 hours (0.20 ceu)

GOAL
Identifying and preventing medication errors is a significant challenge in all health care settings. Pharmacists and pharmacy technicians must understand common methodologies for detecting sources of risk in order to participate in error and risk investigations and to implement changes in pharmacy practice.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Discuss the prevalence of medication errors in the United States;
2. Describe the utility of root cause analysis (RCA) in the health care setting;
3. Outline the steps involved in a failure mode and effects analysis (FMEA);
4. Summarize the benefits of drawing from a multidisciplinary team to complete patient safety evaluations; and
5. List 4 strategies that can be employed in the pharmacy to help reduce medication errors.

The Drug Supply Chain Security Act: Improving The Integrity of Drug Distribution

FACULTY

Marsha K. Millonig, MBA, BPharm  
President & CEO  
Catalyst Enterprises, LLC  
Eagan, Minnesota

UAN: 0430-0000-15-056-H03-T  
Credits: 2.0 hours (0.20 ceu)

GOAL
The goal of this activity is to provide relevant education to pharmacists and pharmacy technicians about the Drug Supply Chain Security Act (DSCSA) to improve the integrity of the drug supply distribution chain, while learning methods to identify suspect product.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Review how the Drug Supply Chain Security Act (DSCSA) will improve the integrity of the drug supply distribution chain;
2. Describe the “track and trace” language in the DSCSA;
3. List DSCSA requirements and their effective dates;
4. Explain what documentation has to “move” with the product; and
5. Describe methods for identifying suspect product delivered to the pharmacy.

CURRENT CONCEPTS IN MEDICATION THERAPY MANAGEMENT

Module 1. What is Medication Therapy Management (MTM)? —2017 Update

FACULTY

Marilyn Stebbins, PharmD
Professor of Clinical Pharmacy
Vice Chair of Clinical Innovation
University of California San Francisco School of Pharmacy
San Francisco, California

UAN: 0430-0000-17-080-H04-T
Credits: 1.0 hours (0.10 ceu)

GOAL
Provide pharmacy technicians with a basic understanding of medication therapy management (MTM) and how technicians can contribute to the process of MTM.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Explain what MTM is and how technicians can support MTM services;
2. Describe the rationale for MTM in the current healthcare climate; and
3. Review steps that technicians can perform to plan and implement MTM services.

Module 2. Medication Therapy Management Procedures and Documents—2017 Update

FACULTY

Marilyn Stebbins, PharmD
Professor of Clinical Pharmacy
Vice Chair of Clinical Innovation
University of California San Francisco School of Pharmacy
San Francisco, California

UAN: 0430-0000-17-081-H04-T
Credits: 1.5 hours (0.15 ceu)

GOAL
Explain the steps and procedures of medication therapy management (MTM) that are most relevant to pharmacy technicians, including the technician’s role in generating and updating key documents used in MTM.
EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Identify documents used in MTM, including the Personal Medication List and the Therapeutic Action Plan;
2. Determine how existing forms can be adapted for specific practice settings and patient circumstances; and
3. Recognize technician’s role in maintaining/updating MTM documents in conjunction with patients and healthcare providers.

Module 3. Medication Reconciliation: Steps for the Pharmacy Technician—2017 Update

FACULTY
Stacy A. Knox, PharmD, BCPS, BCACP
Specialty Pharmacist Supervisor
University of California Davis Medical Center Sacramento, California
Health Sciences Assistant Clinical Professor
University of California San Francisco School of Pharmacy Adjunct Professor of Pharmacy Practice
University of the Pacific Thomas J. Long School of Pharmacy and Health Sciences
Stockton, California

UAN: 0430-0000-17-082-H04-T
Credits: 1.0 hours (0.10 ceu)

GOAL
Provide pharmacy technicians with the skills they need to perform and support medication reconciliation procedures and develop a Personal Medication List (PML).

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Discuss how the pharmacy technician can support pharmacists in reconciliation procedures needed for medication therapy management (MTM);
2. Describe sources of information needed for medication reconciliation; and
3. List steps for reconciliation as part of MTM.


FACULTY
Stacy A. Knox, PharmD, BCPS, BCACP
Specialty Pharmacist Supervisor
University of California Davis Medical Center Sacramento, California
Health Sciences Assistant Clinical Professor
University of California San Francisco School of Pharmacy Adjunct Professor of Pharmacy Practice
University of the Pacific Thomas J. Long School of Pharmacy and Health Sciences
Stockton, California
GOAL
Identify ways in which the pharmacy technician can help reduce medication errors and maximize medication safety.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Discuss** the impact of medication errors and drug safety risks;
2. **Assess** how activities performed by pharmacy technicians can affect medication safety risks; and
3. **Determine** steps pharmacy technicians can take to enhance medication safety for patients participating in MTM.

### Module 5. Helping Patients With Drug Benefits and Coverage—2017 Update

**FACULTY**

*Shalini Lynch, PharmD*
Health Sciences Associate Clinical Professor of Pharmacy
University of California San Francisco, School of Pharmacy
San Francisco, California

GOAL
Provide pharmacy technicians with the tools and background to assist patients with decision-making about medication benefits and coverage.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Recognize** technician's role in assisting patients with benefits and coverage as part of medication therapy management (MTM);
2. **Determine** information needed to assess patients' drug benefit coverage and needs; and
3. **Identify** organizations and services that provide payment or reimbursement for medication-related costs.

### Module 6. The Importance of Chronic Disease Management in MTM—2017 Update

**FACULTY**

*Demetra Antimisiaris, PharmD, CGP*
Associate Professor, Department of Pharmacology & Toxicology and Department of Family and Geriatric Medicine
University of Louisville School of Medicine
Louisville, Kentucky
GOAL
Review core chronic disease states targeted in medication therapy management (MTM) and why chronic disease management is a critical goal in MTM.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Describe the impact of chronic diseases in the U.S.;
2. List core chronic disease states targeted by Medicare Part D for MTM services; and
3. Explain benefits of pharmacy-based MTM services in chronic disease management, including improved patient care, lower healthcare costs, and reduced complications.

Module 7. Polypharmacy and MTM—2017 Update

FACULTY
Demetra Antimisiaris, PharmD, CGP
Associate Professor, Department of Pharmacology & Toxicology and Department of Family and Geriatric Medicine
University of Louisville School of Medicine
Louisville, Kentucky

GOAL
Define polypharmacy and educate pharmacy technicians about managing multiple medications in the setting of MTM.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Define polypharmacy in the context of medication therapy management (MTM);
2. Discuss factors that increase the risks and potential complications of polypharmacy; and
3. Demonstrate how MTM is designed to identify and address problems associated with polypharmacy.

Module 8. Medication Use Among Older Adults—2017 Update

FACULTY
Demetra Antimisiaris, PharmD, CGP
Associate Professor, Department of Pharmacology & Toxicology and Department of Family and Geriatric Medicine
University of Louisville School of Medicine
Louisville, Kentucky

GOAL
Explain the impact of chronic diseases in the U.S.; List core chronic disease states targeted by Medicare Part D for MTM services; and Explain benefits of pharmacy-based MTM services in chronic disease management, including improved patient care, lower healthcare costs, and reduced complications.
GOAL
Enable pharmacy technicians to identify aspects of medication use applicable to older adults, including the frail elderly.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Describe** geriatric syndromes and the physiologic, societal, and behavioral issues associated with aging that may increase risks of medication use;
2. **Discuss** ways in which the body reacts differently to medications as a person ages; and
3. **Recognize** features of medication therapy management (MTM) that should be tailored to individualize therapies for geriatric patients.

**Module 9: Generic Drugs and Therapeutic Equivalence—2017 Update**

**FACULTY**
**Jessie D. Morgan, RPh, MHA**
Manager of Outpatient Pharmacy Services and Medication Access
University of Louisville Hospital James Graham Brown Cancer Center
Louisville, Kentucky

UAN: 0430-0000-17-088-H03-T
Credits: 1.0 hours (0.10 ceu)

GOAL
Identify for pharmacy technicians how generic substitution and therapeutic equivalence play a role in MTM.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Identify** terminology related to pharmaceutical and therapeutic equivalence;
2. **Explain** the pharmacist’s and pharmacy technician’s responsibilities in generic substitution; and
3. **Discuss** how patients can be educated about generic substitution as part of MTM practice.

**Module 10. Controlled Substances and Risk Evaluation Mitigation Strategies (REMS)—2017 Update**

**FACULTY**
**Jessie D. Morgan, RPh, MHA**
Manager of Outpatient Pharmacy Services and Medication Access
University of Louisville Hospital James Graham Brown Cancer Center
Louisville, Kentucky

UAN: 0430-0000-17-089-H03-T
Credits: 1.0 hours (0.10 ceu)

GOAL
Teach pharmacy technicians about how prescribing and distribution restrictions for controlled substances and Risk Evaluation and Mitigation Strategies (REMS) affect the MTM process.
EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Describe controlled substance schedules and how this affects distribution of these agents in the pharmacy;
2. Explain the goals of REMS and the role of pharmacy technicians in adhering to REMS programs; and
3. Discuss how medication therapy management (MTM) services can be tailored to address controlled substance and REMS requirements.

Module 11. Arranging For Reimbursement of MTM Services —2017 UPDATE

FACULTY
Marilyn Stebbins, PharmD
Professor of Clinical Pharmacy
Vice Chair of Clinical Innovation
University of California San Francisco School of Pharmacy
San Francisco, California

UAN: 0430-0000-17-090-H04-T
Credits: 0.50 hours (0.05 ceu)

GOAL
Enable pharmacy technicians to assist with documents and paperwork associated with reimbursement of pharmacist-provided medication therapy management (MTM).

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Outline the various systems through which pharmacists can bill for medication therapy management (MTM) services;
2. Identify methods for billing through Medicare Part D for MTM; and
3. Discuss how MTM can contribute to cost efficiency for different types of healthcare providers.

CURRENT CONCEPTS IN DIABETES MANAGEMENT

Module 1. Diabetes Defined: Pathophysiology

FACULTY
Ashley A. Martin, PharmD, CDE
Clinical Pharmacy Specialist, Diabetes
Providence Endocrinology, Diabetes and Nutrition Center
Missoula, Montana

UAN: 0430-0000-16-104-H01-T
Credits: 2.0 hours (0.20 ceu)
GOAL
To provide pharmacy technicians with a broad understanding of the definitions of type 1 and type 2 diabetes, the clinical features of both type 1 and type 2 diabetes, and the progressive nature of type 2 diabetes.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Recognize the prevalence of diabetes mellitus;
2. Identify the differences between type 1 and type 2 diabetes;
3. Review the symptoms and risk factors for both type 1 and type 2 diabetes; and
4. Identify the roles of genetics and family history in diabetes susceptibility.

Module 2. Identifying Drug Classes to Treat Diabetes: Oral Agents

FACULTY
Dhiren K. Patel, PharmD, CDE, BC-ADM, BCACP
Associate Professor of Pharmacy Practice
School of Pharmacy
MCPHS University
Clinical Pharmacy Specialist VA Boston Healthcare System
Boston, MA

UAN: 0430-0000-16-106-H01-T
Credits: 2.0 hours (0.20 ceu)

GOAL
To educate pharmacy technicians about oral agents used in the treatment of type 2 diabetes.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Define the different classes of oral medications used to treat type 2 diabetes;
2. Outline how treatment plans for patients with diabetes are designed according to American Diabetes Association and American Association of Clinical Endocrinologists guidelines;
3. Discuss the mechanisms of action, adverse effects, and potential drug interactions of diabetes medications;
4. Recognize the effects of oral diabetes agents on glycosylated hemoglobin levels; and
5. List open-ended questions to ask patients who are taking oral diabetes agents to assess the need for a consultation with a pharmacist.

Module 3. Non-Insulin Injectable Diabetes Medications

FACULTY
Dhiren K. Patel, PharmD, CDE, BC-ADM, BCACP
Associate Professor of Pharmacy Practice
School of Pharmacy
MCPHS University
GOAL
To familiarize pharmacy technicians with non-insulin injectable agents available for the management of diabetes and discuss the roles of these agents in diabetes treatment.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. **Discuss** the roles of non-insulin injectable agents for achieving treatment goals in patients with type 2 diabetes;
2. **Recognize** the hierarchy of non-insulin injectable agents within current treatment recommendations;
3. **Define** the incretin effect and how it relates to the mechanism of action (MOA) of non-insulin injectable agents;
4. **Discuss** the MOA, adverse effects, and potential drug interactions associated with the use of non-insulin injectable agents; and
5. **Explain** Risk Evaluation and Mitigation Strategy (REMS) programs related to non-insulin injectable agents.

Module 4. Blood Glucose Monitoring

**FACULTY**

*Justin W. Bouw, PharmD, BCACP, CDE*

Assistant Professor
Clinical and Administrative Sciences
California Northstat University, College of Pharmacy
Elk Grove, Georgia

UAN: 0430-0000-16-105-H01-T
Credits: 1.5 hours (0.15 ceu)

**GOAL**
The goal of this module is to educate pharmacy technicians on the basic concepts of blood glucose monitoring and how to interpret the results.

**EDUCATIONAL OBJECTIVES**
Upon completion of this activity, participants should be better able to:
1. **List** the appropriate steps in using a blood glucose (BG) monitor;
2. **Relate** how to interpret self-monitoring of blood glucose (SMBG) results;
3. **Discuss** glycosylated hemoglobin (HbA1c) and why it is important; and
4. **Recognize** how patients with diabetes make therapy changes based on their SMBG readings with the help of their health care team.
Module 5. Understanding Insulin Therapy

FACULTY
Candis M. Morello, PharmD, CDE, FCSHP, FASHP
Professor of Clinical Pharmacy & Associate Dean for Student Affairs Skaggs School of Pharmacy & Pharmaceutical Science UC San Diego La Jolla, CA Clinical Pharmacist Specialist VA San Diego Healthcare System San Diego, California

UAN: 0430-0000-16-116-H01-T
Credits: 2.5 hours (0.25 ceu)

GOAL
To provide pharmacy technicians with knowledge of the types of insulin products available and how these products are used to manage diabetes mellitus.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Define the basic physiologic concept of basal-bolus insulin;
2. Explain the proper insulin administration techniques;
3. Identify available insulin products and discuss how they are used in diabetes treatment plans;
4. Recognize the warnings and precautions associated with insulin use;
5. Discuss barriers to insulin use; and
6. List questions to ask patients who are using insulin to identify if they may need additional counseling from a pharmacist.

Module 6. Insulin Safety

FACULTY
Susan B. Sloane, RPh, CDE, CPT
Clinical Editor Postgraduate Healthcare Education, LLC Clifton, NJ

UAN: 0430-0000-16-115-H05-T
Credits: 1.5 hours (0.15 ceu)

GOAL
To provide technicians with safety information about the use, storage, and disposal of injectable insulin products and devices.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. List key safety precautions that need to be communicated to patients who use insulin;
2. Discuss common misconceptions that patients have about the use of insulin products;  
3. Describe proper insulin injection techniques; and  
4. List open-ended questions to ask patients to assess if they need further counseling by a pharmacist.

### Module 7. Exercise for Better Health

**FACULTY**

_Sheri R. Colberg, PhD, FACSM_
Professor of Exercise Science  
Human Movement Sciences Old Dominion University Adjunct Professor  
Internal Medicine  
Eastern Virginia Medical School  
Norfolk, VA

**UAN:** 0430-0000-16-028-H01-T  
**Credits:** 2.0 hours (0.20 ceu)

**GOAL**
The goal of this CE module is to educate pharmacy technicians on how exercise impacts diabetes control, and to familiarize themselves with different types and levels of exercise therapy that may be appropriate for patients with diabetes.

**EDUCATIONAL OBJECTIVES**

Upon completion of this activity, participants should be better able to:  
1. **Identify** the physiologic benefits of all types of exercise in patients with diabetes;  
2. **Discuss** exercise recommendations for patients with diabetes based on current evidence-based standards of care;  
3. **Explain** how exercise may lead to both hypoglycemia and hyperglycemia;  
4. **Discuss** how insulin needs may change during and after exercise, and how food intake may need to be adjusted;  
5. **Describe** the impact of some medications on blood glucose levels during exercise; and  
6. **Recognize** that some patients with diabetes have limitations to certain types of exercise and how to adjust exercise based on patient capabilities.

### Module 8. Healthy Eating with Diabetes

**FACULTY**

_Sheri R. Colberg, PhD, FACSM_
Professor of Exercise Science  
Human Movement Sciences Old Dominion University Adjunct Professor  
Internal Medicine  
Eastern Virginia Medical School  
Norfolk, VA

**UAN:** 0430-0000-16-027-H01-T  
**Credits:** 2.0 hours (0.20 ceu)
GOAL
The goal of this CE module is to educate pharmacy technicians about what constitutes a healthy diet for patients with diabetes and how different food choices affect blood glucose control.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Define the key elements that define a healthy diet for diabetes;
2. Indicate the basics of carbohydrate counting versus calorie counting;
3. Recall the meaning of glycemic index, glycemic load, and food insulin index and their importance in blood glucose management;
4. Relate how sugar and sugar substitutes fit in to a diet plan; and
5. Define how to interpret food labels and portion sizes.

Module 9. The Role of the Pharmacy Technician in Medication Therapy Management Services and the Importance of the Complete Medication Review

FACULTY
Susan B. Sloane, RPh, CDE, CPT
Clinical Editor
Postgraduate Healthcare Education, LLC
Clifton, NJ

UAN: 0430-0000-16-114-H04-T
Credits: 1.0 hours (0.10 ceu)

GOAL
To provide pharmacy technicians with information on how medication therapy management services can be provided at the pharmacy level and describe how technicians can be directly involved in the medication review process.

EDUCATIONAL OBJECTIVES
Upon completion of this activity, participants should be better able to:
1. Recognize when a complete medication review (CMR) may be useful for a patient;
2. List benefits of medication synchronization;
3. Define key terms used in medication therapy management (MTM) services;
4. Explain advantages of using a CMR as part of MTM services.