**Course Title:** Best Practices for Handling Hazardous Drugs

**Summary:** (5 hours home study and 12 hours live training = 17 hours CE)

This class will review current regulations and best practices concerning all aspects of handling hazardous drugs (HDs) and is appropriate for medical, nursing and pharmacy workers. Understanding these regulations will allow users to future-proof their facility and employ best work practices when performing both non-sterile and sterile HD handling. Participants must complete 3 eLessons prior to attending the live training. The live training includes lectures by speakers with demonstrated expertise in handling hazardous drugs. Learners will also be able to practice donning and doffing PPE and perform surrogate HD negative pressure techniques. Other lab exercises include inventory receipt, material handling as well as decontamination, cleaning and disinfection strategies inside C-PECs.

**Learning and Performance Objectives for:**

1. **eLearning**

   **Hazardous Drug Introduction and Overview (1-hour CE)**
   - List the adverse health risks of occupational exposure to hazardous drugs (HDs)
   - Describe the occupational sources of HD contamination that may result in exposure of workers
   - Compare the key strategies described by OSHA, NIOSH, ASHP and USP for minimizing the risk of occupational exposure to HDs
   - Develop a plan to identify HDs used at your organization including an assessment of risk
   - Demonstrate the specific administrative, environmental, personal protective equipment (PPE) and work practice controls that result in improved safety
   - Describe the recommended environmental and medical surveillance

   **Hazardous Drug Engineering Controls and Personal Protective Equipment (2 hours CE)**
   - Describe the types of compliant HD primary and secondary engineering controls for both sterile and non-sterile compounding
   - Discuss considerations relevant to the use of pass-throughs in HD applications
   - Analyze the allowable but suboptimal designs of HD secondary engineering controls
   - Select the correct type of personal protective equipment (PPE) for hazardous drug compounding and other handling scenarios
   - List the proper sequence and methods of donning and doffing HD PPE

   **Hazardous Drug Work Practice Strategies (2 hours CE)**
   - Demonstrate proper work practices essential to containment of HD residues from receipt of inventory, material transfer, storage, compounding, labeling and packaging of final compounded preparations and their transport to patients.
   - Contrast negative pressure compounding techniques used in HD sterile compounding with the use of CSTDs
   - Properly sequence and perform decontamination, cleaning and disinfection in HD handling environments
2. Live Training:

Session: Hazardous Drug Overview and Review of USP Chapter <800> (1.25 CE hours)

- Cite examples of the effects of exposure to HDs on healthcare staff that handle HDs described in the literature
- Describe the location of resources with regard to HD practice
- Define hazardous drugs
- Recite the major best practice, guidelines, standards and regulatory events related to HD compounding
- Describe the major elements of USP 800
- Differentiate the standards that are proposed in USP 800 from those in USP 797 and 795
- Restate the harmonization that is predicted to occur between relevant USP Chapters

Session: Use of PPE with Hazardous Drug Handling (1 CE hour)

- Discuss shortcomings in current practice
- List the steps to perform donning and doffing of HD PPE correctly
- Evaluate donning and doffing practice at your facility
- Modify practices at your facility based on best practice garbing to reduce HD contamination

Session: Primary, Secondary, and Supplemental Engineering Control Requirements (1.75 CE hours)

- Describe the types compliant HD primary and secondary engineering controls for both sterile and non-sterile compounding
- Discuss considerations relevant to the use of pass-throughs in HD applications
- Analyze the allowable but suboptimal designs of HD secondary engineering controls
- List strategies to compensate for suboptimal designs
- List the required testing performed during certification of primary and secondary engineering controls

Session: Work Practice Strategies for Receiving, Compounding and Transporting HDs (1.25 CE hours)

- List the activities necessary when accepting new inventory and transport of that inventory to intermediate storage
- Describe the known exposure risks with HD inventory
- Explain proper storage of HD inventory
- List the practice elements essential to reduction of HD contamination generation from material handling through compounding, labeling, and transport to patients
- Implement effective decontamination of the final CSPs
- Evaluate safe transport procedures for HD inventory and final CSPs
Lab Session: Donning, Doffing and use of the “Doffing” Line (1-hour CE)
• Correctly perform donning and doffing of HD PPE
• Evaluate participant doffing practice through the use of fluorescent tracer mist and dust
• Evaluate donning and doffing practice at your facility
• Modify practices at your facility based on best practice garbing to reduce HD contamination

Lab Session: Negative Pressure Compounding versus Use of CSTDs (1-hour CE)
• Perform simple draw using simulated “red drug” using positive, negative and CSTD strategies
• Contrast the difficulty of each of the compounding strategies
• Evaluate the time necessary to correctly perform negative pressure compounding against the performance of potential supplemental ECs at your location
• Modify negative pressure compounding practices at your location if required
• Observe HD administration with a model CSTD as required by USP <800>

Session: Environmental and Medical Surveillance Considerations (0.75 hours CE)
• Describe the recommended environmental and medical surveillance best practices
• Formulate a plan for initial and ongoing environmental HD surveillance for your organization
• Evaluate the medical surveillance considerations presented
• Analyze which elements of medical surveillance can be implemented at your organization

Session: Decontamination, Cleaning, and Disinfection of HD Compounding Environments (1.25 hours CE)
• Define and differentiate the terms deactivation, decontamination, cleaning and disinfection
• List the classes of agents used for cleaning, decontamination and disinfection
• Properly sequence and perform decontamination, cleaning and disinfection in HD environments
• Evaluate your facility’s current practices for decontamination, cleaning and disinfection
• Modify your facilities procedures with regard to decontamination and cleaning of HD compounding environments
• Discuss the logistics of spill cleanup as it applies to decontamination, cleaning and disinfection

Session: Response to HD Exposure and Spills (0.75 hours CE)
• List the required elements of an exposure control and response plan and evaluate your organization’s plan for compliance
• Discuss the requirements for HD Spill clean-up
• Describe the logistical and practical hurdles that can be encountered in implementing an effective spill management program
• Contrast the contents of a “generic” spill kit with other equipment and supplies that may be necessary for an ancillary spill kit
• List potential strategies for effective Spill Management

Lab Session: HD Receiving and Materials Management (0.5 hours CE)
• Utilize a spill clean-up exercise to analyze requirements for spill cleanup supplies, equipment, training and deployment at your organization
• Create a practical spill management plan for your organization
Lab Session: Cleaning HD Compounding Environments (0.5 hours CE)
• Utilize a spill clean-up exercise to analyze requirements for spill cleanup supplies, equipment, training and deployment at your organization
• Create a practical spill management plan for your organization

Panel Discussion: Questions and Answer (1-hour CE)
• Evaluate your facility’s practice against the information presented in this class
• Question speakers where areas of ambiguity exist relative to making real changes in performance in your work setting