Developing An Immediate-Use Compounding SOP

Katie Laskin

While it is ideal to prepare compounded sterile preparations (CSPs) within a segregated compounding area or clean room environment to minimize contamination, many infusion medications given in the home do not have extended stability data to support compounding in advance. This includes many high-cost medications, such as biologics. Fortunately, USP Chapter <797> specifies certain conditions for immediate-use compounding that exempts CSPs from the requirements for Category 1, 2, or 3 compounding and allows for mixing within the home, outside of an ISO-classified environment.

Immediate-use compounding is not a new concept. The 2008 version of <797> did allow for it, but under stricter circumstances and with a shorter beyond use date (BUD) than its 2023 counterpart (Exhibit 1). One of the major differences in the newer version is the requirement for written standard operating procedures (SOPs) outlining immediate-use compounding procedures and the need to train personnel who perform those duties. As facilities work to ensure compliance with the 2023 revision, the new immediate-use requirements should not be forgotten. SOPs should define when immediate-use compounding is acceptable, the procedures to be followed to minimize contamination, and requirements for training personnel.

2008	2023
Administration must begin within 1 hour following the start of preparation	Administration must begin within 4 hours following the start of preparation
Includes no more than 3 commercially manufactured packages of sterile non-hazardous products	Involves not more than 3 different sterile products
Antineoplastics shall not be prepared as immediate-use CSPs because they are hazardous drugs	Handling of sterile hazardous drugs (HDs) must additionally comply with <800>.
Unless required for the preparation, the compounding procedure is a continuous process not to exceed 1 hour	No compounding time restriction
No specific requirement for training or competency evaluation	Personnel must be trained and demonstrate competency in aseptic processes and facility's SOPs must define these processes
If required, label must contain: • Patient identification information • Names and amounts of all ingredients • The name or initials of the person who prepared the CSP • 1-hour BUD following the start of preparing the CSP	If required, label must contain: • Names and amounts of all **active** ingredients • The name or initials of the person who prepared the preparation • 4-h BUD following the start of preparation

EXHIBIT 1 Immediate -Use C CSPs Under USP Chapter <797> »

Note: Under the USP <797> revision that is effective November 1, there are 2 different exemptions available to compounders for preparing medications

outside of the PEC. This article focuses on immediate-use preparation when referencing the final product of a CSP. Compounders should also have SOPs in place for preparing per package insert.

Immediate-Use Compounding

Facilities should define within their SOPs the conditions under which immediate-use compounding will be allowed. Immediate-use compounding should be reserved only for those times when a product cannot be compounded in a primary engineering control (PEC) within the pharmacy before distribution to a patient. These CSPs must be intended for immediate administration to the patient upon completion of preparation and assignment of a maximum BUD of 4 hours following the start of preparation. Unless directly administered by the compounder, the CSP must be labeled. This label must contain the names and amounts of all active ingredients, the name or initials of the person who prepared the CSP and the assigned 4-hour BUD.

USP<797> 2023 also specifies an immediate-use compound may include no more than 3 different sterile products. This differs from the previous version of the chapter, which specified a maximum of 3 different sterile packages. The use of singledose containers for 1 patient only is also specifically called out in the new version, stating any remainder in these vials must be discarded immediately upon completion of preparation of a single CSP. SOPs should include all the above requirements and outline procedures to comply with standards.

Procedures to Minimize Contamination During Immediate-Use Compounding

Since compounding outside of an ISO-classified environment increases the likelihood of microbial contamination, precautions to minimize this risk should be taken and processes should be outlined in SOPs.

Facilities should define appropriate hand hygiene procedures including removal of jewelry, proper hand washing technique, and instructions on how to disinfect hands if a sink is not available. PPE requirements should also be outlined. If nonsterile gloves are utilized, SOPs should instruct personnel on how to disinfect gloves prior to any manipulation of product.

All efforts should be made to ensure a clean work surface for compounding. SOPs should instruct compounders on how to create and maintain that clean area throughout dose preparation, whether through use of a disinfectant or a sterile field provided by the pharmacy.

Personnel performing immediate-use compounding must utilize aseptic techniques which include use of sterile supplies, disinfection of vial stoppers, and avoidance of contact with critical sites. Safe needle technique should be used, and appropriate disposal of compounding components should occur. Effective SOPs will include all procedures the facility has determined necessary to reduce the risk of contamination.

Training and Competency Requirements

USP<797> 2023 requires all personnel who perform immediate-use compounding to receive initial and ongoing training and competency. It is also a requirement to document these activities. SOPs must define what these training and competency assessments entail and how often ongoing assessments will occur.

Designated persons (DPs) are ultimately responsible for training and assessment of staff, but a DP can delegate these tasks to assigned trainers. SOPs should identify which personnel are allowed to train new employees and who can sign off on initial and ongoing competency assessments. To create the most useful SOPs, include specific training points and criteria to be evaluated during assessments. Establish a standard dose preparation simulation procedure each compounder will

perform during evaluation and a checklist to be completed by the evaluator (see Exhibit 2).

Performance Criteria	SAT	UNSAT	Comments
Hand Hygiene			
Removes all jewelry on hands and wrists (i.e., rings, bracelets, watches)			
Performs hand hygiene by washing with warm water and soap for at least 30 seconds.			
Dries hands with a clean, dry paper towel			
Applies alcohol-based hand sanitizer and allows to air dry			
Garbing			
Dons appropriate gloves			
If not utilizing sterile gloves, disinfects gloves with alcohol-based hand sanitizer, allowing to air dry before compounding begins			
Dose Preparation Simulation			
Utilizes sterile field as a work surface			
Selects components and arranges the below compounding supplies on work surface in an efficient manner: • Alcohol swabs • Sterile water vial • Empty sterile vial • NS 50mL bag • 5mL syringes with needle			
Disinfects vial stopper with 70% isopropyl alcohol swabs using unidirectional swiping			
Uses air displacement to maintain vial pressure to avoid leaks or sprays			
Punctures vial with bevel of needle facing upward at 45-degree angle to avoid coring			
Avoids contact with critical sites (i.e., septum, needle, syringe barrel)			
Transfers 3mL of sterile water from vial to empty vial, swirls to simulate reconstitution. Draws up 2mL from "reconstituted" vial and adds to 50mL NS bag			
Performs safe needle technique to protect from needle-stick injury			
Disposes of compounding supplies appropriately (i.e., needles in sharps container)			
Visually inspects final CSP to confirm no particulate matter (i.e., coring) and the solution appearance is as expected according to medication labeling			
Labeling and Documentation			
Demonstrates proper labeling of CSP, including the names and amounts of all active ingredients, initials of the person who prepared the preparation and 4-hour BUD			

EXHIBIT 2 Immediate Use Competency Assessment Evaluation Example »

SOPs should also include actions to be taken if an immediate-use compounder fails to demonstrate competency. This should include re-training and repeat evaluation. All training, re-training, and evaluations must be documented. SOPs should clearly identify where this documentation occurs. USP<797> does not specify how often ongoing training or competency evaluations need to occur. This is up to each individual facility to determine and outline in SOPs.

Although many home infusion providers have been performing immediate-use compounding safely in the home, the updated <797>, which will be enforceable November 1, has set new standards to ensure personnel receive the appropriate initial and ongoing training and assessments. The chapter left much discretion up to each facility to define these procedures in their SOPs. While this gives flexibility, it also requires facilities to establish more robust policies and procedures. Including specific and clear information in SOPs will not only meet the requirements, but also provide clear direction to staff to ensure safe patient care.

Katie Laskin, PharmD, BCSCP, CNSC, IgCP is Senior Pharmacy Specialist at Yale New Haven Health Home Infusion. She can be reached at Katie.Laskin@YNHH.ORG