

Proper Identification of Compounding Risk Levels and Notification to the Board of Pharmacy

Pharmacies that hold a permit from the North Carolina Board of Pharmacy that engage in any type of compounding are required to notify the Board. Such pharmacies must report: (1) whether they compound; (2) a good-faith estimate of the percentage of the pharmacy's dispensing that involves compounded products; (3) whether the pharmacy engages in non-sterile compounding; (4) whether the pharmacy engages in sterile compounding; and (5) what risk level of sterile compounding the pharmacy performs as defined by USP <797>.

Accurate reporting of this information is crucial for at least two reasons: First, failure to provide accurate information in connection with seeking or renewing a permit is grounds to revoke or void a pharmacy permit. N.C.G.S. § 90-85.38. Second, the Board's risk-based inspection intervals are driven by the scope and type of service provided at a pharmacy, particularly compounding services.

In at least one recent case, a pharmacy reported that it was only engaged in low-risk sterile compounding. An inspection showed that the pharmacy was, in fact, engaged in high-risk sterile compounding. Such misreporting is a serious issue, and will be treated as such.

STERILE COMPOUNDING

A microbial contamination risk level is an assignment given a particular type of compounded sterile product according to the potential for the introduction of contamination during the compounding process. The assignment of risk level is based on multiple factors including: the *type of components* used; the *environment* in which compounding occurs; and the *complexity* of the compounding process.

USP <797> Microbial Contamination Risk Levels are defined as follows:

Low Risk Level Compounding:

Sterile compounds that are compounded with aseptic manipulations entirely within a ISO Class 5 or better air quality device, usually within an ISO Class 7 environment, using sterile products, components, and devices.

Compounded products involve not more than 3 commercially manufactured packages of sterile products and not more than two entries into anyone sterile container or package-e.g, bag or vial.

Manipulations are limited to aseptically opening ampules, penetrating disinfected stoppers on vials with sterile needles and sterile syringes

Examples of Low Risk Level Compounding: Reconstitution and transfer of a sterile 1gm vial of Cefazolin into one sterile syringe or sterile diluent IV bag.

Medium Risk Level Compounding:

Products are compounded with aseptic manipulations entirely within an ISO Class 5 or better air quality device, usually within an ISO Class 7 environment, using sterile products, components, and devices.

Compounded products are compounded aseptically for multiple individual doses or multiple small doses of sterile products that are pooled together to prepare one sterile compounded product.

Compounding process includes complex aseptic manipulations other than single volume transfers using 4 or more sterile ingredients.

Examples of Medium Risk Compounding: A bulk 1gm vial of Vancomycin distributed among several final doses, a TPN, a combination of several sterile ingredients into one final dose.

High Risk Level Compounding:

Sterile products compounded from non-sterile ingredients and/or compounded using any non-sterile devices, containers, or equipment.

Products prepared from sterile ingredients, containers, devices, or equipment that are exposed to less than ISO Class 5 air.

There is more than a 6-hour delay prior to sterilization of the compounded product.

Examples of High Risk Level Compounding: PCA or epidural compounded from non-sterile powder ingredients. Any ingredient-compounded sterile product relationship involving non-sterile ingredients and/or devices or a compounded sterile product that requires terminal sterilization (filtration, steam, heat, gas, or ionizing radiation).

NON-STERILE COMPOUNDING

At this time pharmacies engaged in Non-Sterile Compounding are only required to report to the Board (1) If the pharmacy is engaged in Non-Sterile Compounding; (2) a good-faith estimate of the percentage of the pharmacy's dispensing that involves compounded products. In the future the Board may require pharmacies engaged in Non-Sterile Compounding to identify what category of Non-Sterile products they are compounding and notify the North Carolina Board of Pharmacy on their permit application or renewal.

USP <795> Categories of Non-Sterile Compounding are defined as follows:

Simple Non-Sterile Compounding:

Making a preparation that has a USP compounding monograph or appears in a peer-reviewed journal that contains specifics on component quantities, compounding procedure, equipment and stability data for the formulation and appropriate Beyond Use Dates (BUD), or reconstituting or manipulating commercial products that require addition of one or more ingredients as directed by the manufacturer

Examples of Simple Non-Sterile Compounding: Captopril Oral Solution, Indomethacin Topical Gel, and Potassium Bromide Oral Solution.

Moderate Non-Sterile Compounding:

Compounding a preparation that requires special calculations or procedures to determine quantities of components per preparation or per dosage unit.

Making a preparation for which stability data is not available for the preparation.

Examples of Moderate Non-Sterile Compounding: morphine sulfate suppositories, diphenhydramine troches, or mixture of two or more manufactured creams when stability of the mixture is not known.

Complex Non-Sterile Compounding:

Making a preparation that requires special training, environment, facilities, equipment and procedures to ensure appropriate therapeutic outcomes.

Examples of Complex Non-Sterile Compounding: transdermal dosage forms, modified-release preparations, and suppositories for systemic effects