Every day while working at a compounding pharmacy, a patient will come in and laugh at all the equipment surrounding the pharmacy and is in complete shock that their product or their pet’s product was made from just the pure powder and fillers. The truth is, compounding pharmacy is one of the oldest forms of pharmacy to exist, with mortar and pestles being found in artist’s rendering of ancient medicine. For this reason, compounding pharmacy should be a class taught in every pharmacy school’s core curriculum. Compounding pharmacy is the past, present, and soon to be future of pharmacy. Without compounding pharmacy, who knows how medications would have been made. Compounding pharmacy allows for customized medications for the large amount of patients who do not fit the mold of manufactured products. Compounding pharmacy can also be seen in veterinary medicine causing more and more people to turn to compounds. Finally, no matter what aspect of pharmacy that a pharmacy student decides to choose, whether it be retail pharmacy or hospital pharmacy, they will be asked to compound a medication or at least know how to, and pharmacy educators would be depriving them of a proper education if they did not teach them the skills to compound a medication.
One of the biggest reasons why compounding pharmacy should be taught in every curriculum is the fact that compounding pharmacy is the basis for which today’s pharmacies exist. To deprive students of the history of their future career would be an insult to the pharmacy profession. Before there were manufacturers, the Food and Drug Administration (FDA), or even pharmacy schools, there was compounding pharmacy. For example, as students we learn the history of the United States and the rest of the world, so the same should be done within pharmacy. Students cannot learn from their mistakes or progress if they don’t understand the background of their profession. Compounding pharmacy allows for pharmacists to learn about fillers, preservatives, anti-microbials, etc. that could be found in all medications, whether it be compounded or manufactured. Therefore, if a patient was trying to figure out the need for a specific inactive ingredient within their medication, the pharmacist can properly educate the patient. For example, when students learn about a medication, they learn about its pharmacology, how one ester group can cause the drug to work or increase its duration of action, in order to understand a suspension as a whole, from ingredient to ingredient, you need to understand compounding, because each and every ingredient has a purpose.

Many students believe that because they are working at a retail pharmacy or hospital pharmacy that in the future they will never have to know how to compound a prescription, but they will. Today, with retail pharmacies trying to make more money, they will be willing to tell the patient that they can make a compounded prescription rather than turn that patient away. They will provide the pharmacist with minimal equipment and expect that prescription to be filled. If there is no educational background of either the pharmacist or technician, the prescription may not be made properly, causing the product to be less efficacious. This leads to a patient who will be just as angry as if they were turned away from the pharmacist who said they couldn’t fill their compounded medication.
Although some may think that compounding pharmacy has been on a steady decline, some may say it is on the rise and could possibly be the future of pharmacy. According to the FDA, in 2002 it was estimated that 250 million prescriptions for compounded drugs were written, which is around 1% to 8% of all prescriptions\(^1\). This number will only be on the rise with more and more medication shortages. Every day more and more drugs have been going on backorder or there is a national drug shortage. For example, Fentanyl Citrate injections are on a national drug shortage\(^2\) and doctors are having to turn to compounding pharmacists to make these injections from the pure medication powder. This technique of sterile compounding will be crucial for hospital pharmacists who may have doctors turning to them for these injections when they are on manufacturer’s backorder or in short supply.

Although many drug companies, doctors, and even other pharmacist debate that compounded medications are less efficacious, less sterile, and not FDA approved compounded medications may be just as safe as an FDA product. Yes, these drugs are not tested by the FDA, but their ingredients must be FDA approved\(^3\). More importantly, those who believe these products are not as safe as FDA approved products are missing the fact that hundreds if not thousands of FDA approved products have been taken off the market or cause horrible side effects that a compounded product may not cause. For every death from a compounded medication there may be hundreds of deaths or horrible side effect from and FDA approved manufactured product. For example, according to the Gold Sheet, the FDA reported more than 1,742 drug recalls in 2009 (See Figure 1)\(^4\).

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\(^1\) Coyne, Patrick J., Lea A. Hansen, and Ashby C. Watson. 2003. Compounded Drugs. Are Customized Prescription Drugs a Salvation, Snake Oil, or Both?. American Journal of Nursing 103 (5): 78-9, 81, 84.


The biggest advantage of compounded medications is their customizability. This is the key to why compounding pharmacy will be around for centuries to come. There is no possible way drug companies can have every strength, dosage form, or flavoring available and this is where compounding pharmacy creates its niche. There are thousands of drug allergies out there and disease states, which create a need for a change in dosage forms. Every parent is begging their pharmacist for a flavoring option for the medication that their child hates to take or a family of an elderly patient who cannot swallow their medication due to a medical condition. Another niche that compounding pharmacy has become a huge part of is veterinary medication. From the ability to flavor the medication from fish, liver, beef or chicken flavor to customizing the medication for a five pound teacup yorkie, thousands of pet owners will be turning to compounding pharmacy to provide medication to their animals. In 2014 when the Health Care Reform Bill allows for all United States citizens to have access to health insurance, the demand for compounding may potentially be on the rise. Now, patients who may have had the need for compounded medications, who previously did not have access to these medications, will soon get the medication they need.
There is one thought that all pharmacy educators should ponder when deciding on whether or not compounding pharmacy should be a part of their school’s curriculum; according to most state laws, a pharmacist can compound virtually just by receiving their license⁵. If you were a patient receiving a compounded medication and the only requirement of that pharmacist was to be licensed in that state, wouldn’t you want to make sure that pharmacist was properly educated on compounding pharmacy? The answer is yes, and for that reason, all pharmacy students should be taught about compounding pharmacy in their core curriculum. Compounding pharmacy will forever be the past, present and future of pharmacy and without the basis of knowing where your profession came from, you cannot move forward with your education. The customizability of compounded products will allow for compounding pharmacy to have its niche in the health care world and the ability for drugs to be compounded even when a product is not commercially available makes compounding a part of a variety of pharmacy careers.