

# Why Preparing Your Chemotherapy Is Not Like preparing a Milkshake

Oncology Pharmacists specialize in oncology medications and infusion therapy. We work collaboratively with your oncologists, nurse practitioners, infusion nurses, and other health care providers to ensure patients receive safe and effective cancer care.

Intravenous and oral medications are commonly used as the main treatment for various types of cancer. But the same chemotherapy that treats the cancer won't help if it is not made properly. Improperly made chemotherapy can even be harmful.

## **Sterile, Accurate, and Timely.**

### **Sterile**

The chemotherapy must be sterile (germ-free), so you do not get infected by the chemotherapy as it is administered into your body. A technician or pharmacist stands in front of a piece of equipment called a Biological Safety Cabinet to make the chemotherapy. The chemotherapy is made inside this cabinet for two reasons. The first reason is to keep the chemotherapy preparation sterile (germ-free). The second reason is to limit the contact between the chemotherapy particles and the pharmacy staff.

### **Accurate**

The chemotherapy must be made accurately, which means that it is made exactly as your doctor orders. With chemotherapy, there is no room for error. The pharmacist must be 100% correct, and accuracy takes time.

Every chemotherapy order is reviewed by pharmacists to ensure safe medication use. In addition, every medication prepared must be the right drug and the right dose. The fluid that contains the drug must be right. Also, the chemotherapy must be labeled accurately to include the necessary information.

### **Timely**

#### **Why does making a dose of chemotherapy take longer than making a milkshake?**

The chemotherapy must be made in a timely manner that also guarantees sterility and accuracy. We do not prepare your infused medication until your arrival and after all parameters specified by your doctor are met. Remember, timely does not mean "as fast as possible." Timely means the least amount of time that still produces an accurate and sterile product.

**Please note** the pharmacy can set up the drug and supplies in advance, but cannot actually make the drug until you have arrived. This allows your doctor to make changes to your chemotherapy,

if necessary, based on the most current health status and lab values. You can help our review process by completing your lab work in advance, so that your doctor has the most current lab work prior to your arrival. Cancer-related oral medications are also prepared in a timely manner to ensure accuracy. Our trained pharmacy technicians will facilitate approval with your insurance company, which may take approximately two or more business days. If you are receiving pain medications or compounded medications, the pharmacist needs to complete additional steps in accordance to the pharmacy law.

### **What's involved in making chemotherapy?**

There are many steps involved in making your chemotherapy. Some of them are:

***The doctor orders your chemotherapy.*** Your doctor must assess your status, your blood work, and your body's ability to handle the chemotherapy before he/she orders a treatment. Your doctor prescribes the name of the drug, the dose, the dates of treatment, the method of administration, the type of fluid to contain the drug, and the duration of the treatment.

***The pharmacist reviews the order for accuracy and completeness.*** Your pharmacist reviews your doctor's order completely, your blood work, and then recalculates the dose. The information is reviewed again a second time as an additional safety check to ensure 100% accuracy.

***Infusion Nurse notifies our pharmacy when all assessments and parameters are cleared.*** To make the chemotherapy in the Biological Safety Cabinet, the technician gathers the supplies and the containers of chemotherapy. These containers are called vials. The technician removes the exact amount of chemotherapy from the vial and adds it to a bag of fluid so that it is ready for administration. The pharmacist will verify each product is made accurately and germ-free.

It can take between 30 to 60 minutes to make one dose of chemotherapy. Depending on the treatment, the technician may need to manipulate one to forty vials to prepare your infusion! Some drugs are powders and need time to dissolve. Also, many patients receive more than one drug. It is not unusual for a patient to get up to six drugs. If you participate in a clinical trial program, the pharmacist needs to complete additional steps in accordance to each study protocol's instructions. Remember, timely does not mean "as fast as possible." Timely means the least amount of time that still produces an accurate and sterile product.

**Our ultimate goal is to provide a sterile, accurate, and timely treatment for you. Our pharmacy team is available to discuss your needs with us.**

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