

## **Introduction to the MGUH Bloodless Medicine and Surgery Program's Instructions of the Patient Worksheet**

The procedures listed on the Instructions of the Patient Sheet involve recycling and re-infusing your own blood during or after surgery with the intent of minimizing blood loss and maintaining a functional blood count to assist in your recovery. The key aspect of these procedures is maintaining a closed circuit which serves as an extension of your own blood systems so your blood is never exposed to the outside environment.

The medications listed on the instruction sheet are made from minor blood fractions which are applicable in a variety of clinical settings. Since they are made with minor blood fractions it is your personal decision to accept or reject any or all of these medications as treatment options. The following are some frequently asked questions (FAQS) regarding medications made from minor blood fractions:

### **Q. What are minor blood fractions?**

A. Minor blood fractions are proteins extracted from human plasma through a process known as blood fractionation. Plasma is the liquid portion of your blood that is composed primarily of water and a small amount of minerals, salts, nutrients, and proteins. The proteins extracted for medicinal purposes include albumin, immunoglobulins, and clotting factors such as fibrinogen. A minor blood fraction can be likened to an ingredient in a cake. Flour, sugar, eggs, and oil make up a cake; however, individually these ingredients are not cake. Similarly, minor blood fractions are “ingredients” in the plasma, but are not plasma.

### **Q. How does blood fractionation work?**

A. Specific fractionation machines are used to separate the different proteins from the liquid portion of the plasma. After the fractionation process, all blood cells have been removed and only the protein remains in its purified form. The extracted proteins are then used to make various medications indicated on the instruction sheet.

### **Q. Where does the plasma come from?**

A. The plasma used for removal of the proteins (minor blood fractions) comes from donations at various plasma centers around the country.

### **Q. Are synthetic forms of these proteins available?**

A. A blood clotting protein known as **Factor VII** has a recombinant (synthetic) form which can be given to control excessive bleeding. Because it is synthetic, this would be an acceptable treatment option.