

# **Blood Utilization Program (BUP)**

Reducing your Risk of a Blood  
Transfusion before your Elective Surgery

Vancouver General Hospital  
BUP Office, Preadmission Clinic  
899 West 12th Avenue  
Vancouver, BC  
Tel: 604-875-4632  
Fax: 604-875-4187

## **What is the Blood Utilization Program (BUP)?**

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The BUP is a program that can give you information and specific recommendations on how to help reduce your risk of having a blood transfusion with your elective surgery and enhance your recovery.

### **Who is referred to the BUP?**

Patients who are at greater risk of having a blood transfusion with surgery are referred to the program. This risk may be because of the type of surgery to be done (ie. revision hip surgery) and /or the individual health of the patient (ie: low iron/iron deficient). Talk to your surgeon to see if you should be referred to the program.

### **Who works in the BUP?**

The BUP is staffed with a Registered Nurse (RN) who works out of the Preadmission Clinic. Treatment recommendations to help reduce your risk of having a blood transfusion are made by a group of Anesthesiologists (a physician that gives you your anesthetic) and a Hematopathologist (a physician who specializes in blood).

### **When should a patient be referred to the BUP?**

A patient should be referred to the BUP program once the decision for surgery has been made. This allows for enough time for the BUP physicians to review your individual situation, make and implement recommendations to help reduce your risk of having a blood transfusion with your surgery.

### **How is a referral to the BUP made?**

Referral to the BUP can be made directly from your surgeon's office or from the Preadmission Clinic.

### **What are alternatives to Blood Transfusion?**

Depending on your medical history and type of surgery you are having, one or more of the following alternatives to blood transfusion may be available to you before, during or after your surgery.

## Before Surgery

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- **Iron pills**

Iron is stored in your body and is needed for making new red blood cells (hemoglobin). Iron deficiency, a shortage of iron stored in the body, can cause you to have low hemoglobin (anemia). A simple blood test can tell if your body has enough iron. If your iron is found to be low, it can be corrected by taking iron pills for a period of time. You should also see your family doctor to find out the reason why your iron is low.

- **Intravenous Iron**

When the body has a severe shortage of iron, iron pills alone may not be able to build up your blood before surgery. In this case, iron would be given through the vein (intravenously). This is done as an outpatient at the hospital and may be done one or more times.

- **Preoperative Autologous Blood Donation (PABD)**

PABD is when you donate your own blood (usually two times) before you have surgery. Your blood is stored for you in the Blood Bank for up to 42 days. If you should need a blood transfusion during or after your operation, your own blood will be used first. Not all patients are eligible for PABD.

- **Erythropoietin (EPO)**

EPO is a natural hormone made by your kidneys. It stimulates the bone marrow to make more red blood cells (hemoglobin). A man-made form of EPO is available that will do the same thing and boost up the hemoglobin.

## During Surgery

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- **Cellsaver**

Some hospitals have a machine called a “cellsaver” that may be used to collect your blood from the operation site. Once your blood is collected, it is cleaned and processed into a blood bag so that it can be given back to you through a needle in your vein (intravenous). Your surgeon and the anesthesiologist will decide whether this machine will be needed during your surgery.

- **Acute Normovolemic Hemodilution (ANH)**

This is a specialized procedure done in the operating room by the Anesthesiologist. Once you are asleep, one or more units of your own blood will be removed and replaced with an intravenous fluid. Your own blood is stored until the end of your operation. Once your operation is finished, your own blood is given back to you through a needle in your vein (intravenous).

- **Antifibrinolytics**

These are drugs that may be used during your surgery to reduce bleeding. Their use will be determined again by your medical condition and the type of surgery that you are having.

## After Surgery

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- **Iron Pills**

When blood is lost from the body, the iron that is attached to it is also lost. Iron pills are often used after surgery to replace/build up the iron stores so that the body is able to remake the red blood cells that it has lost. This will help make your recovery from surgery easier.

- **Healthy Diet**

Eating a well balanced diet helps promote good health. Eating foods rich in iron, folic acid and B12 also helps in the making of red blood cells and will help make your recovery from surgery easier.

## Other Related Information Available:

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- Transfusion of Blood Products: Risks and Benefits of Blood Transfusion (catalogue No. FC.160.T687)
- Preoperative Autologous Blood Donation: Important Information about One Alternative to Blood Transfusion (catalogue No. FC.155.Au82)

For more copies, go online at <http://vch.eduhealth.ca> or  
email [pchem@vch.ca](mailto:pchem@vch.ca) and quote Catalogue No. **FC.165.B655**  
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