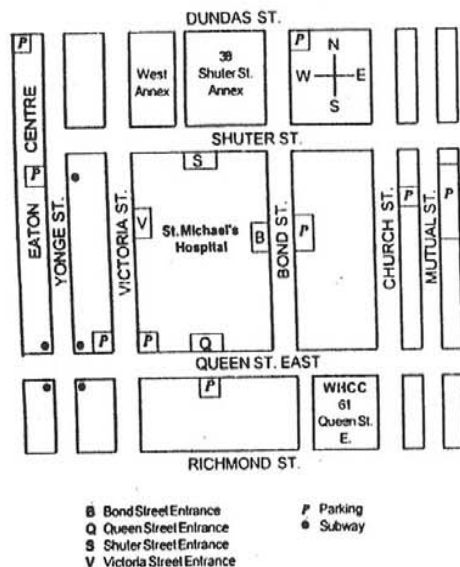


## The Location...

**Blood Transfusion Services**, located at  
the 2nd floor, Victoria Wing

### Location of Hospital



**Blood Transfusion Services**  
St. Michael's Hospital  
30 Bond Street  
Toronto, Ontario  
M5B 1W8

tel: (416) 864-5084

Form NO. 69132 Dev. 10/2000



# Blood Conservation Programme

Pre-Operative Autologous  
Blood Donation and  
Transfusion



## What is autologous blood transfusion?

Autologous blood transfusion is a procedure whereby the patient's own blood is used to meet anticipated transfusion needs. Using the patient's blood reduces many associated risks and is the safest form of transfusion. In particular, the risk of hepatitis, and/or other disease transmission, and adverse reactions due to blood group or plasma incompatibility are eliminated. Also, development of antibodies to blood groups is eliminated. There also may be a reduction in the risk of postoperative bacterial infection. In individuals with rare blood groups or complicated antibody problems, autologous donation may be the easiest means of providing compatible blood.

Numerous studies have confirmed the safety and practicality of pre-operative autologous donation (PAD). Withdrawing red cells over several weeks prior to the surgical procedure can be done easily, and multiple phlebotomies can be scheduled to accommodate anticipated need.

## What are the donor criteria?

The one absolute requirement is that the patient must be able to regenerate red blood cells. Generally, the haemoglobin should be 120g/L or above. Also, the patients must not have an infection at the time of donation. The cardiovascular system must be able to withstand a drop in blood volume of approximately 10%. Sometimes other medical problems will prevent donation.

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### **What is the first step in an autologous transfusion procedure?**

Following discussion with a physician, an appointment needs to be booked with the Autologous Clinic, either at St. Michael's Hospital or the Canadian Blood Services. Oral iron therapy will then be commenced. The procedure is usually performed weekly. There must be adequate venous access to allow the blood to be taken. The minimum time between each donation, and between the last donation and the date of surgery should be at least 72 hours. Longer intervals are suggested whenever feasible

### **How many units can a patient donate?**

Patients can usually donate the number of units of blood routinely reserved for their surgical procedure.

### **Should the patient receive iron supplements?**

The appropriate dose is 300mg of Ferrous Gluconate three times daily, during the preoperative phase. It is suggested that iron therapy begin 30 days prior to surgery.

### **What happens to unused autologous units?**

Unused units are discarded. They are not used for other patients.

### **What tests are done?**

The donor will have a haemoglobin determination before each unit is taken. The withdrawn units will have their blood group (ABO and Rh) determined and tests for infectivity e.g. due to hepatitis and/or HIV (AIDS), may be performed.

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### **What about the transfusion?**

Autologous blood is identified in the blood bank by a specific identifying tag and kept in the transfusion service (Blood Bank) until it is needed.

The patient must inform the nurse and/or physician on admission that they have autologous units available. The nurse and/or physician must notify the transfusion service when the patient is admitted. This allows time to prepare the units for transfusion. **It is important to notify the transfusion service if the surgery is postponed or cancelled.**

Just prior to transfusion, a recheck of the patient's blood type is necessary. Other routine pretransfusion testing is unnecessary if the blood is for autologous use only.

Since the major cause of transfusion reactions is clerical errors, the same identification procedures for patient and donor unit identification are used for donor blood from another individual, or autologous blood.

It is important to recognize that sometimes e.g. with large blood loss, there may not be enough autologous blood. It therefore remains possible that the patients may require allogeneic blood from the routine CBS volunteer donor blood supply. Autologous blood will always be used first and allogeneic blood will not be transfused unless the attending physician deems it necessary to the preservation of the patient's health and survival.

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### **How the Autologous process is initiated:**

#### **St. Michael's Hospital Autologous Clinic:**

The surgeon will discuss the possibility of self donation if he/she deems the patient to be an acceptable candidate. At present St. Michael's Hospital limits collections to patients with Coronary Artery Disease and certain neurosurgical procedures. The process will be initiated from the office of the surgeon, and the paper work will be sent to the nurses in the Autologous Clinic. You will then be contacted by telephone regarding an appointment time to donate. The SMH Clinic will not take telephone requests directly from the patient.

#### **Canadian Blood Services Clinic:**

With the exception of Cardiac and certain Neurosurgical procedures, those surgical candidates who fit the criteria for self donation, and would likely require a transfusion during the course of hospitalization, will be treated by the Canadian Blood Services. The CBS will notify the patient if the blood tests indicate infectious diseases, and will discard the unit.

If the patient is not from Toronto, the Canadian Blood Services may accommodate the procedure at designated sites around Ontario. This process is initiated from the office of the surgeon by telephoning the Toronto Centre at (416) 974-9900. Ask for the Autologous Clinic at the centre.