



## MANITOBA RENAL PROGRAM

<b>SUBJECT</b> <ul style="list-style-type: none"> <li>Human Leukocyte Antigen Antibody Testing Routine and Post Transfusion Protocol</li> </ul>	<b>SECTION</b> 70.10 Protocols – Manitoba Renal Program General
	<b>CODE</b> 70.10.01
<b>AUTHORIZATION</b> <ul style="list-style-type: none"> <li>Professional Advisory Committee, Manitoba Renal Program</li> <li>Professional Advisory Council, St. Boniface Hospital</li> </ul>	<b>EFFECTIVE DATE</b> September 2001
	<b>REVISION DATE</b> September 2013 April 2016 January 2017

### PURPOSE:

- To describe recommended blood sampling on Renal Replacement Therapy (RRT) patients who are potential candidates for transplantation and the blood samples are sent to the Transplant Immunology Laboratory where the blood will be tested for the presence of anti-Human Leukocyte Antigen (HLA) antibodies.

### **KEY POINT:**

Blood transfusions expose the recipient to the HLA antigens of the blood donor. If there are differences between the blood donor and the renal patient's HLA antigens, then the renal patient may develop an antibody 14-18 days after exposure to the blood transfusion against the blood donor's HLA antigens. If patients are being prepared for transplantation, the Transplant Immunology Laboratory tests for the presence of these antibodies. If a kidney becomes available through organ donation, the renal patient's serum is checked for antibodies against the organ donor's HLA antigens. This is called a cross-match.

### POLICY:

- The Transplant *Immunology Laboratory Requisitions* are sent out by Transplant Manitoba monthly or quarterly to the renal units for all patients who are on the transplant waiting list in order that serum samples are drawn and the samples are delivered to the Transplant Immunology Laboratory. Transplant Manitoba will mail these requisitions to those patients not on hemodialysis.
  - Monthly blood samples are collected on patients considered "Ready", "" & "Ready LKD" on the transplant wait list.
  - Quarterly blood samples are collected on patients considered "Ready Cons", "Hold", "Hold LKD", "NR LKD", & "Not ready" on the transplant wait list.
- Blood samples for HLA antibody can be drawn peripherally (e.g. from arteriovenous fistula/graft or from the patient's central venous catheter (CVC).

### **KEY POINT:**

If drawing sample from CVC ensure that adequate discard of instillation (5 mL) is drawn prior to obtaining sample for HLA antibody)

- As indicated on the *Immunology Lab Requisition # R250-10-63*, the sample requirement for the HLA Antibody Screen is 1 x 8.5 or 9 mL SST serum tube. This is the routine requirement for patients on the Manitoba Renal Transplant List.

However, patients on additional waiting list (e.g. Minneapolis) require 3 x 8.5 or 9 mL SST serum tubes.

**KEY POINT:**

If these tubes are not available and it is necessary to use an alternate tube please ensure the amount collected is a minimum of 8.5 mL. All serum tubes that contain SST gel are acceptable replacements (e.g. red or gold top tubes). See the following table for equivalent numbers of tubes.

Tube Requirements	Equivalent Tubes
1 x 8.5 mL SST serum tube	2 x 5 or 6 mL serum tube
3 x 8.5 mL SST serum tube	6 x 5 or 6 mL serum tube

4. The serum tube should be labeled with a DSM Transplant Immunology Lab label.
5. The patient is at highest risk to develop an anti-HLA antibody **14-18days following a blood transfusion**. It is important the sample **not be drawn prior** to 14 days, as the antibody may not be detectable. Similarly, the antibody may be transient and it is therefore **important to draw the blood sample between 14 – 18 days**. To ensure the blood samples are collected correctly the following steps must be taken:
  - o When ordering a blood transfusion the physician must order the HLA sampling.
  - o When transfusing a unit of blood to a RRT patient, the nurse must check whether:
    - the patient is a known or potential transplant candidate
    - there is a physician order for post transfusion HLA sampling on chart; if not request order for same.
  - o The date of transfusion must be noted in the chart.
  - o A Transplant *Immunology Lab Requisition* must be put on the chart for a serum sample to be drawn 14-18 days after the transfusion.
  - o On the requisition, the nurse must note that this is a post-transfusion sample by checking the appropriate box labelled “post-transfusion sample”.

**REFERENCES:**

Information obtained from Transplant Immunology Lab, Diagnostic Services Manitoba. Sept 2016

<https://apps.sbggh.mb.ca/labmanualviewer/index.do>