

## BLOOD TRANSFUSION GUIDELINES

### Request Forms

There are 3 types of request forms used in the Blood Transfusion Services (BTS):

1. **DLM-FORM-GEN-007**: Group & Cross Match Form for requests for blood and blood products
2. **DLM-FORM-GEN-008**: Blood Transfusion Service Form for routine immunohaematology requests.
3. **DLM-FORM-GEN-022**: Investigation of suspected transfusion reaction form.

Ensure that the request form contains sufficient information for positive identification of the patient.

- Patient's full name (in legible handwriting)
- NRIC/HRN
- Sex and age
- Clinical history/surgical procedure
- Location (wards, clinics, Emergency department, Operating Theatres)
- Name, MCR and signature of doctor's/GXM certified nurse collecting the specimen
- Date and time of collection

## Specimen Collection & Handling

Samples collected using the above forms MUST include name and signature of phlebotomist (including doctor and certified nurses who drew the blood).

Group and Crossmatch samples will either be rejected or phlebotomist will be requested to make amendments in the criteria listed below.

ERROR TYPE	ACTION
Addressographs Used	Reject
Wrong ID	Reject
Verification box not completed	Reject
Mis-spelling of name but ID tally	Doctor/phlebotomist who drew the blood can come down to change and initial. If doctor is off-call, a new specimen/form will be required. If it is an emergency or urgent request, it will be accepted, but doctor's name will be required to be taken and to update form at a later time. All amendments to be recorded in form DLM-FORM-DLM/BTS/155 Specimen Verification Form.
No doctor's signature on form and/or tube	
DOB written on tube instead of date specimen collected.	
Plain tube used instead of EDTA tube used but particulars are hand written.	Accept
Insufficient Sample  Haemolysed Sample	Reject

## Procedures for Requesting Blood

### I. Complete the Group and Cross Match Form

The following instructions are mandatory in completing the Group and Cross Match form:

1. Write legibly the patient's name, date of birth and ID on the request form or print from Aurora. Do not submit forms with addressograph labels as they will not be accepted.
2. Include the date and time when the blood is needed, amount required and surgical procedure and/or diagnosis.
3. Ensure that a medical practitioner or GXM certified nurse who drew the blood signs the form and on the specimen after he/she has checked that the name on the form, the patient's identification wristband and the sample label are the same. Also include date and time specimen was collected.
4. Keep the duplicate copy for subsequent collection of blood or blood products from Blood Transfusion Service (if applicable).

### II. Blood Request

1. Draw blood in the EDTA or 6mL tube specifically designed for Group and Cross match. For paediatrics, use a special 500 uL EDTA microtainer. (See table below for paediatrics specific tube collection)
2. Write the following on the sample. **DO NOT** submit samples with addressograph labels as they will not be accepted.
  - Patient's full name (in legible handwriting)
  - NRIC/HRN
  - Date and Time of collection
  - Doctor's/GXM Certified Nurse's signature
3. Complete the Group and Cross Match form following the instructions in I.
4. Blood Bank staff will discard any specimen that is incompletely or improperly labelled or if the identification is in doubt. A repeat specimen will be required.








#### **Crossmatch tubes:**

10 mL Vacutainer, pink top

500 uL Microtainer, pink top

For collection of GXM in paediatric patients

Below 5 yrs old	6 – 10 yrs old	For children above 11 yrs old ( if good vein or bigger build)
 <p>Collect two full 1mL EDTA tubes</p>	 <p>Collect one full 3mLs paed EDTA tube</p> <p>OR</p>	 <p>Collect one full 3mLs paed EDTA tube</p> <p>OR</p>
<p><b>*For patients going for cardiac procedure, please collect THREE full 1ml EDTA tubes</b></p>	 <p>Collect two or three full 1mL EDTA tubes</p> <p><b>*For patients going for cardiac procedure, please collect THREE full 1ml EDTA tubes</b></p>	 <p>Collect one adult pink GXM</p>

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**DO NOT USE ADDRESSOGRAPH LABELS ON THE FORM OR TUBE**  
Patient name as in NRIC (Printed) (Patient consent)

**GROUP & CROSS-MATCH**

GROUP & CROSS-MATCH (GXM) SPECIMENS CAN ONLY BE DRAWN BY DOCTORS / GXM CERTIFIED NURSES

**TRANSMISSION HISTORY**

**Signature**

**I VERIFY THAT THE PATIENT IDENTITY ON THIS FORM, THE SAMPLE AND THE PATIENT'S WRISTBAND ALL MATCH.\***

Full name : \_\_\_\_\_ (in block capitals)      Signature : \_\_\_\_\_      Date : \_\_\_\_\_

Mobile /Ext no : \_\_\_\_\_      Time : \_\_\_\_\_

This crossmatch is valid for only 72 hours from the time of specimen collection (except PAT specimens)

**FAILURE TO CORRECTLY IDENTIFY YOUR PATIENT MAY RESULT IN A FATAL ABO TRANSFUSION REACTION**

\* The person drawing the sample must be the one signing on this verification section.

**Both form & specimen MUST be handwritten legibly, (except Aurora printed form)**

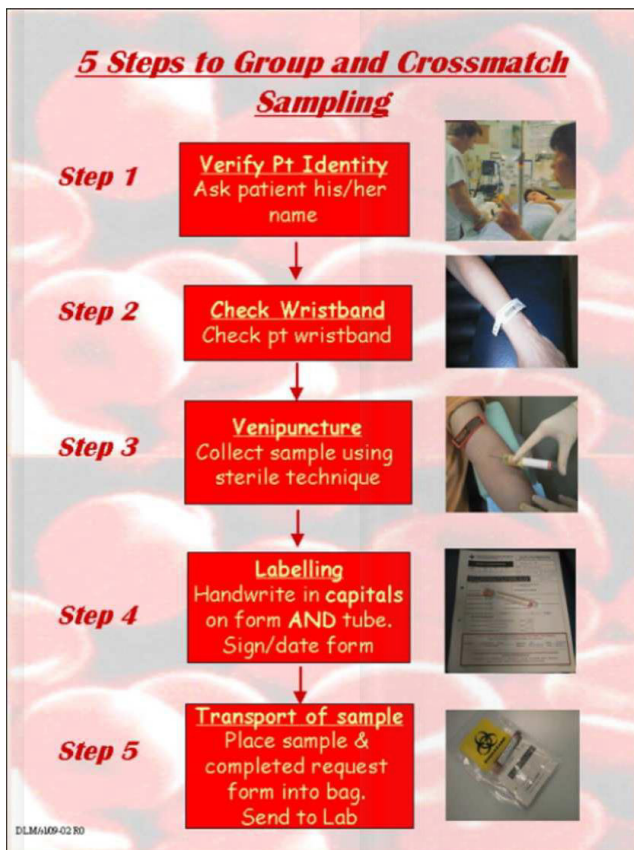


INCLUDES (On form):

- Patient's full name
- Patient's NRIC
- Patient's DOB

INCLUDES (On specimen):

- Patient's full name
- Patient's NRIC
- Date & time of collection
- Dr/GXM Certified Nurse's signature



III. Estimated Time for Provision of Blood

Type of Crossmatch	Time from calling BTS to first 2 PCT ready for collection*	GXM required?	ABO group	Transfusion Reaction Risk
Uncrossmatch	5 – 10 mins	No. Can be issued before GXM**	O+ for males O- for Indian and Caucasian females <50 y	5% risk of incompatibility 0.5% risk of haemolytic reaction
Rapid Match	15min from time GXM sample arrives in BTS	Yes	ABO specific No antibody screen	5% risk of incompatibility 0.5% risk of haemolytic reaction
Full Crossmatch	15min (valid GXM in last 3 days, without antibody) 45min from the time GXM sample arrives in BTS 2-4 hours (with antibody)	Yes	ABO specific Antibody screen done	Lowest risk of haemolytic reaction

\*Exact time may vary depending on situation

\*\*Please ensure that GXM sample is taken prior to start of transfusion

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## Procedure for the Administration of Blood

Refer to:

1. NUH-HAP-MAQ-025 – Handling, Processing, Use and Administration of Blood and Blood Components
2. NUH-SOP-NSG-GEN-027 – Care of Adult Patient on Blood Transfusion
3. NUH-SOP-NSG-NEO-022 – Care of Baby on Blood Transfusion

## Transfusion Reactions

Febrile and urticarial reactions to blood transfusion are common and usually do not endanger the patient's life. However, report immediately to Blood Transfusion Services personnel ANY reaction to a blood transfusion as it should be regarded as potentially dangerous.

Pre-transfusion testing reduces, but does not eliminate the chance of a transfusion reaction. During the transfusion, look for: *anxiety, restlessness, redness or unusual warmth near transfusion site, flushing, chest pain, dyspnoea, urticaria, tachycardia, fever, chills, cough, nausea, vomiting, shock, lumbar pain, decreased urine output, hypotension, hemoglobinuria.*

STOP THE TRANSFUSION if a reaction occurs, but maintain the intravenous line while contacting the physician.

Report all transfusion reactions to the Blood Transfusion Services on the prescribed forms. Submit the following with the Investigation request for suspected transfusion reaction:

- All forms
- Blood packs and giving sets
- 10 mL of clotted blood or EDTA sample.
- 5 mL of urine sample
- Post transfusion blood specimen 24 hours later (only when requested by BTS)

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## AUTOLOGOUS BLOOD DONATION GUIDELINES

### Autologous Blood (Pre-deposit)

#### **Definition:**

Autologous blood transfusion means donating blood for your own use at a later date. Autologous blood is most commonly requested for elective surgery.

#### **Criteria for Donation:**

Criteria for donation are listed on the Request Form from Blood Services Group, Health Sciences Authority (BSG, HSA).

Consent must be obtained from the donor-patient and the attending physician by completing a form "REQUEST FOR AUTOLOGOUS BLOOD DONATION" (Form #CLN-140-100A/07 – 01/03/17) which can be obtained from Blood Transfusion Service, NUH. Please call 67722305 for this form.

#### **Procedure:**

Ensure that the donor-patient complete the request form for autologous donation. He/she has to make prior arrangement for the donation at the BSG, HSA. Contact number is available on the Request Form. Ensure that the medical conditions are stated on the form. Following the necessary laboratory testing and infectious screening, successful autologous blood donations will be sent via the courier service from BSG, HSA to NUH BTS. The unit will be available for use, at the earliest, after 24 hours from collection. It will be stored in NUH BTS until required or product expiration, when it will be discarded.

The information of this autologous unit i.e. unit number, date of expiration, diagnosis can be seen in the hospital Computerised Patient Support System (CPSS2)

#### **Indications for Use:**

See *HANDBOOK OF TRANSFUSION MEDICINE*.

#### **Advantages:**

The advantages include:

1. Provisions of blood for patients who prefer their own blood;
2. Reduction of risk of transmission of diseases; and
3. Reduction in the incidence of alloimmunisation and other adverse immunologically related effects.



**Disadvantages:**

Should the elective surgery be delayed or cancelled, the pre-deposited blood will no longer be suitable for use as it has a limited shelf life of 35 days.