



**TRANSFUSION MEDICINE DEPARTMENT
HOSPITAL TENGKU AMPUAN RAHIMAH, KLANG**

TRANSFUSION PRACTICE GUIDELINES FOR HOUSE OFFICER

2nd FEBRUARY 2024

Version 1.0

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TRANSFUSION MEDICINE

1. INTRODUCTION

Blood transfusion is a medical procedure that involves transferring blood or blood components from one person (donor) to another (recipient). It is crucial for treating various conditions such as severe anemia, surgical bleeding, trauma and certain medical conditions affecting blood cells. The goal is to replace lost blood or provide specific blood components like red blood cells, plasma or platelets to improve the recipient's health. Strict compatibility testing is essential to prevent adverse reactions.

2. LISTS OF SERVICE

- Blood Transfusion Services which encompasses transfusion laboratory testing and clinical transfusion consultations.
- Supply of safe blood and blood products to Hospital Tengku Ampuan Rahimah, Hospital Shah Alam, Hospital Banting, Hospital Tanjung Karang, Hospital Sabak Bernam, and nearby private hospital patients.

3. REQUEST FORMS

- PER-SS-BT 105 (PIND. 1/2016) form to be filled thoroughly upon request for all blood and blood products. (Refer page 17)
- PER-PAT 301 form to be filled with significant clinical history upon request for antibody identification. (Refer page 18)
- The form must be completely filled and clearly written. FOR URGENT TEST, please indicate STAT/URGENT on UPPER SIDE of the request form.

4. SPECIMEN COLLECTION

ORDERING BLOOD FOR TRANSFUSION

Most transfusion errors are due to clerical mistake when specimen is taken from the patient or when blood is administered. The precautions given in this section are extremely IMPORTANT.

A. Patient identification and blood sampling for compatibility testing

The ordering doctor must ensure the following:

- (a) The patient must be correctly identified. The doctor taking the blood specimen must ask the patient to state their full name and IC number/ Passport (use of at least 2 identifier) in **open ended question** such as “Can you tell me your full name and IC number?”. This information must be checked against the case notes and/or wristband/ identification card.
- (b) If it is not possible to identify the patient in the above manner (e.g. in case of unconscious patient, pediatric patients or in case of emergencies), the doctor shall identify the patient by asking the relative or carer to name the patient, check patient’s wristband and then check against the case notes/identification card.

B. Labeling the specimen

- (a) The specimen must be labeled with legible and readable handwritten labels.
- (b) The person who takes the blood from the patient has to take full responsibility in ensuring that the blood specimen is placed in the correct tube.
- (c) The process of taking and labeling of blood samples shall be carried out as ONE process by ONE person at the bedside.
- (d) Never label specimen for 2 or more patients at the same time.

C. Blood specimen requirement for elective surgery/transfusion

- (a) Specimen should be sent to Transfusion Medicine Laboratory during OFFICE HOUR.
- (b) The following is requirement for blood specimen sent for grouping and compatibility testing :
 - Specimen from infants less than 4 months of age
 - Infant : 1.5 – 2.0 ml blood in EDTA tube (paeds)
 - Mother : 3 – 5 ml blood in EDTA tube
 - The sample from the infant and the mother should be sent together under a single request.
 - Specimen from patients above 4 months of age: 3 – 5 ml blood in EDTA tube

D. Blood sample requirement for blood component such as platelets, fresh frozen plasma and cryoprecipitate

- (a) A new request for blood component other than red cells shall be accompanied by a blood sample taken in EDTA tube if no previous record in BBISv2.

5. GROUP, SCREEN AND HOLD (GSH)

The aim of Group, Screen and Hold (GSH) is to control the quality of blood, maximized the use of blood and screening for the presence of alloantibody which can cause incompatibility. GSH consists of an ABO and RhD group and an antibody screen on the patient's plasma. Plasma is retained for 3 days in the Transfusion Medicine Laboratory in the event that cross-matching blood is required at a later stage.

6. EMERGENCY TRANSFUSION

A. Group O Rh(D) positive packed cells are used as Safe O (uncross-matched group O Rh(D) Positive Packed Cells) in emergency cases only.

- (a) In life threatening situations, clinicians can make the decision to transfuse group O Rh(D) positive packed cells for resuscitation which is available in Transfusion Medicine Laboratory, ED and Maternity OT.
- (b) Decision to transfuse uncross-matched group O Rh(D) positive blood must only be made by the specialist only and after the clinician has fully assessed the patient's condition. The decision should not be made in haste.
- (c) The requesting clinician must fill the 'Safe O form' and signed.

B. 1st Stage

- (a) Should only be requested when transfusion is necessary and required immediately. (Need to call MO bloodbank oncall for code)
- (b) Emergency blood – crossmatching will be done only at RT, compatible blood will be released after 30 minutes (TAT).
- (c) After releasing the blood, MLT will proceed with crossmatch at 37°C and AHG phase. Any incompatibility during the crossmatching will be immediately notified to the clinician by phone call concerning the transfusion risk and intervention.

C. Massive transfusion protocol (MTP)

(a) Massive Transfusion Protocol is a locally agreed guidelines among that include clinical, laboratory, blood bank and other logistic responses.

(b) Massive Transfusion definition:

- Transfusion of ≥ 10 PC units, which approximates the TBV of an average adult patient, within 24 hours
- Transfusion of > 4 PC units in 1 hour with anticipation of continued need for blood product support.
- Replacement of 50% of the TBV by blood products in 3 hours

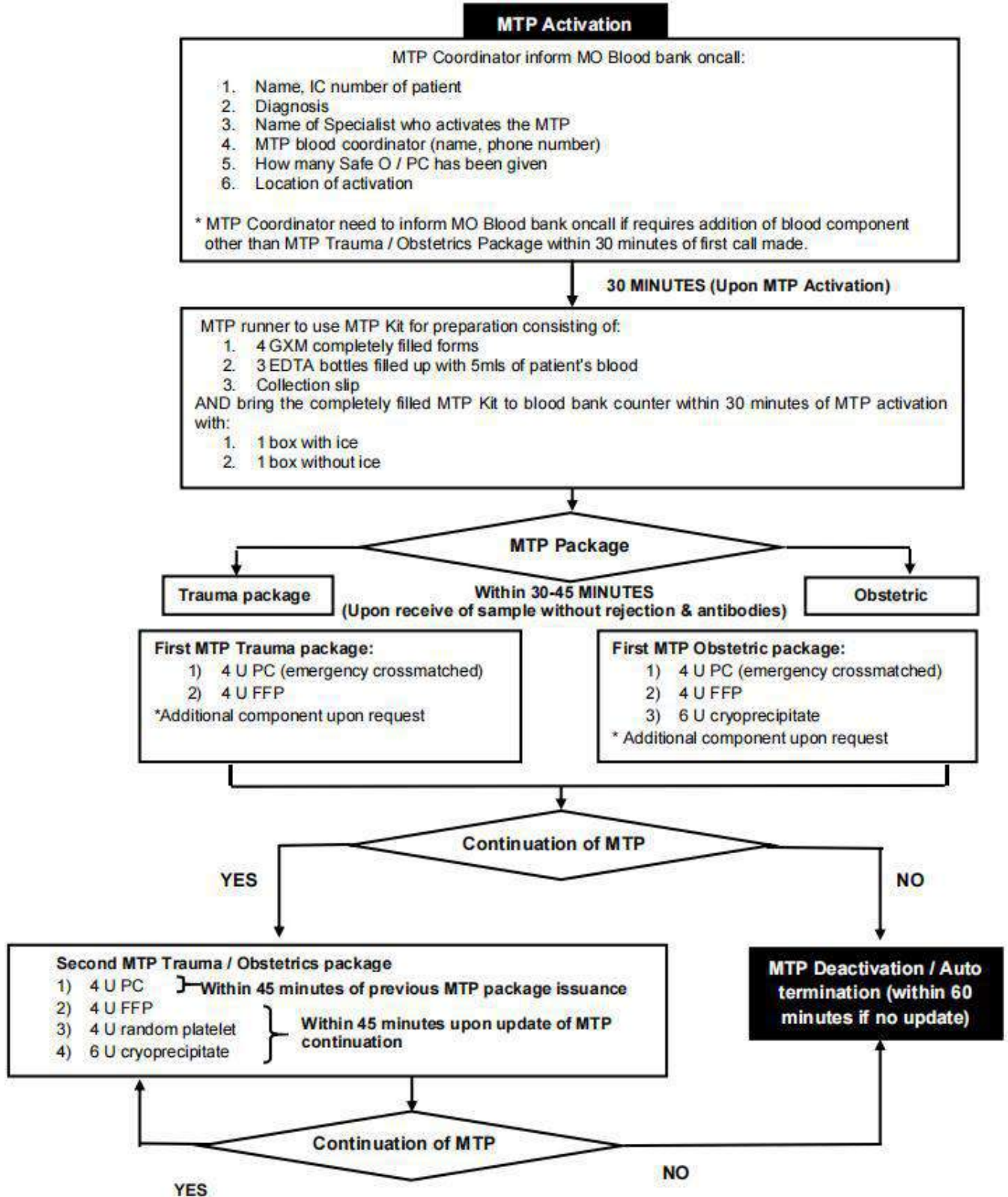
(c) MTP activation criteria:

- Estimated blood loss $> 30\%$ of blood volume ($>1.5L$) within 3H or $> 150ml/min$
- Persistence of class III shock despite of 2L of fluid resuscitation (1L crystalloid & 1L blood)
- Trauma-Associated Severe Haemorrhage (TASH) > 16

(d) Activation and cessation of MTP should be clearly communicated to all relevant teams (Can refer to Massive Transfusion Protocol, 1st March 2023 edition)

***** SAFE O / 1ST STAGE / MTP  NEED TO WAIT AT COUNTER!!!!**

MTP FLOWCHART

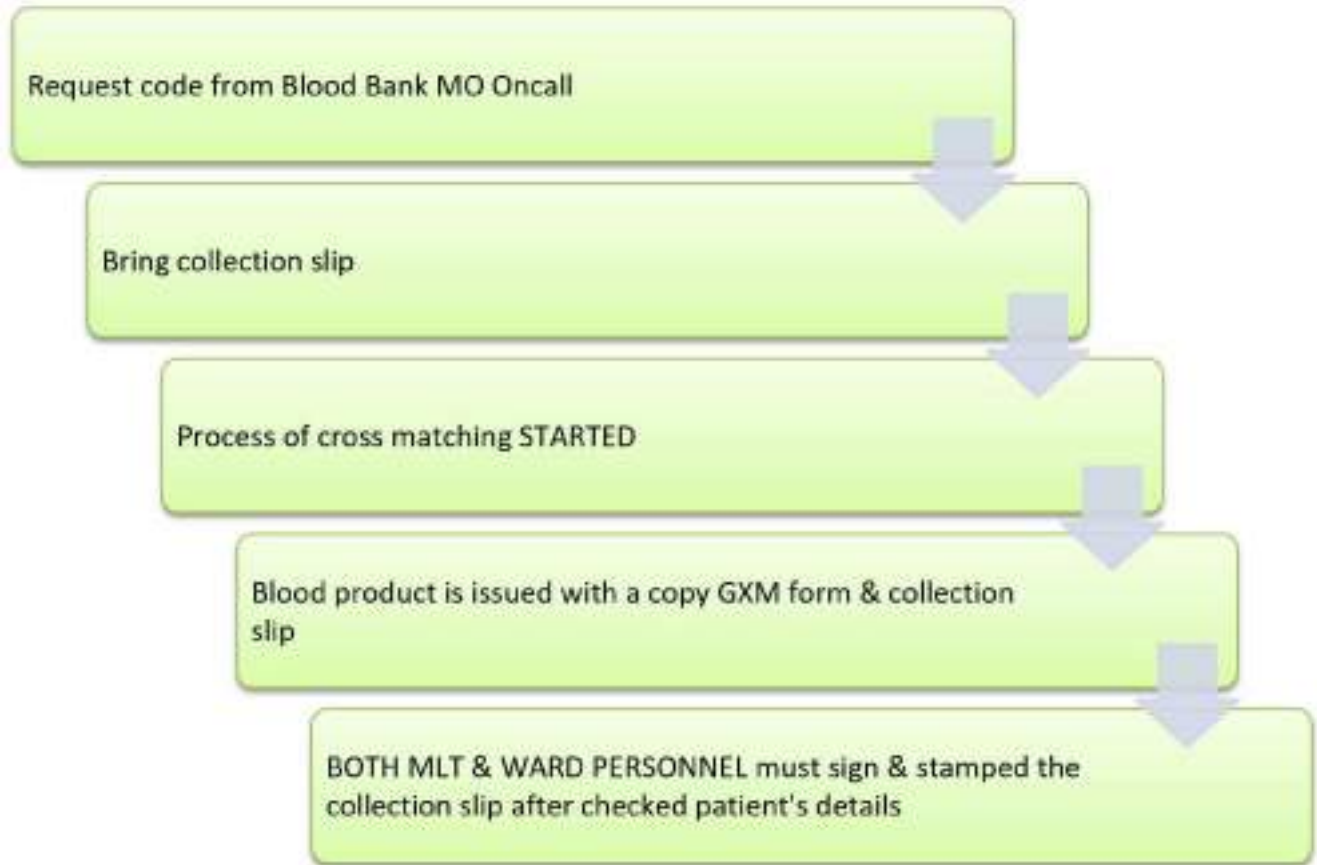


7. SPECIMEN REJECTION

Refer Appendix D-K

- Sample grossly lysed
- Insufficient sample (Less than 4ml)
- Sample leaking/spillage
- Wrong container
- Pre-printed label
- Illegible hand-writing
- Changes on patient's particulars without signature/initial
- There are discrepancies between information on the sample label and the request form
- Usage of micropore for labeling
- Incomplete label on sample (Example : Name/IC)
- Incomplete request form
- No carbon-copy of request form
- Double sticker on sample
- No doctor's signature and official stamp by requesting doctor
- Any reasons that affect the sample's integrity (Example : Sample taken more than 4 hours)


8. ISSUE, COLLECTION, STORAGE AND TRANSPORT TO WARD



*For collection of remaining reserved blood at blood bank

➡ MUST SEND COPY GXM FORM & NEW COLLECTION SLIP TO COLLECT THE BLOOD

The person collecting the blood/ blood components must bring appropriate storage containers according to the blood components.

Component	Transport Box	
Red Cell (All types of red cell)	Insulated box with coolant pack Direct contact with coolant need to be AVOIDED	Should be transfused within 30 minutes of removal from blood refrigerator, and each unit of red cells transfusion shall not exceed 4 hours
Platelet	Insulated box with NO ICE	Should be transfused IMMEDIATELY (cannot be reserved)
Thawed FFP/Cryoprecipitate /Cryosupernatant	Insulated box with coolant pack Direct contact with coolant need to be AVOIDED 	Fresh frozen plasma <ul style="list-style-type: none"> ➤ Once thawed, may be stored at 4 +/- 2°C in an approved temperature-controlled blood refrigerator before administration to patient as long infusion completed within 24 hours thawing. ➤ Transfusion should be completed within 4 hours of issue out of controlled temperature environment Cryoprecipitate <ul style="list-style-type: none"> ➤ Once thawed, must not be refrozen and should be used IMMEDIATELY

9. GUIDELINES OF ADMINISTRATION OF BLOOD AND BLOOD COMPONENTS

A. Identification check of intended recipient.

- (a) A generated Recipient Card label (PPDK) will be attached to the blood and blood components supplied from the blood bank. On the card, there will be information of the patient and blood.

- (b) The information provided must be checked carefully with the patient's identification details. The blood or blood components should not be transfused if the spelling of the patient's name or the identification number of the patient does not match exactly with the details given on the blood pack.

- (c) Before you give the blood or blood components to a patient:
 - Confirm patient's name, identification number, registration number, ward by :-
 - ✓ Asking the patient or relative to confirm the patient's name via open ended question
 - ✓ Checking:
 - The patient's note including the wristband
 - The generated Recipient Card label (PPDK 1 card)
 - PER-SS-BT 105 (PIND.1/2016) form

 - Confirm that the blood or a blood product is compatible by checking the blood group on:
 - ✓ Blood bag label
 - ✓ The generated Recipient Card label (PPDK 1 card)
 - ✓ PER-SS-BT 105 (PIND.1/2016) form

 - Check expiry date and conditions of the blood or plasma on the blood bag.

B. Blood Administration sets

- (a) ALL Blood and blood components shall be transfused through blood administration set containing special IV tubing with integrated filter to remove blood clots and particles.
- (b) The tubing of administration set shall ONLY be primed with 0.9% NaCl or with blood component itself
- (c) If administration set has previously been used for transfusion of red cells, it shall NOT be used for transfusing platelet. A fresh transfusion set shall be use



C. Observe patient according to Transfusion Practices Guidelines for Clinical and Laboratory Personnel 4th Edition, Jun 2016

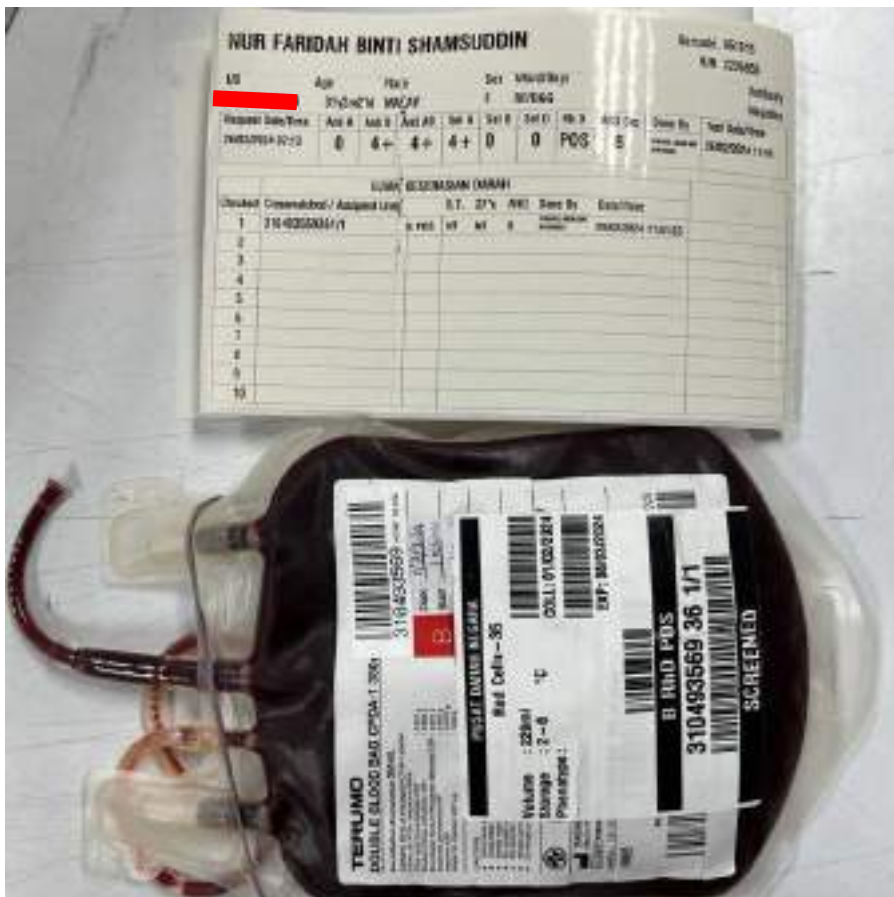
- (a) Parameters to be monitored shall include:
 - Blood pressure.
 - Pulse rate.
 - Temperature.
 - Clinical features of acute transfusion reactions.
- (b) The vital signs shall be monitored and recorded:
 - Before starting transfusion.
 - During the transfusion (Close observation & monitoring for the first 5 to 10 minutes, and subsequently half hourly and then hourly. Perform vital sign monitoring every 15 minutes for unconscious patients receiving transfusion)
 - After completion of transfusion.
- (c) If there is any complain or sign & symptoms of transfusion reaction, STOP transfusion immediately, ASSESS the patient and follow transfusion reaction guideline.

D. Record keeping

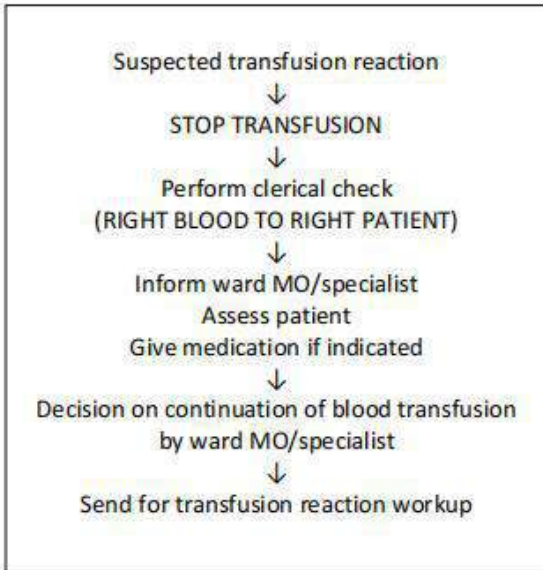
- (a) Details of all blood component infused must be written in patient’s case record.
- (b) On completion of blood transfusion, ward personnel must ensure that the Recipient Card (PPDK) attached to each bag of blood is completely filled.
- (c) A copy of blood request form shall be kept with patient’s case notes.

E. Used blood or remnants of blood

- (a) Blood discontinued for any reason must not be used again and must be returned to blood bank. The Recipient Card (PPDK) must be returned to Blood Bank with details of the transfusion, amount of blood infused and the reasons for discontinuing the transfusion



10. TRANSFUSION REACTION GUIDELINE



**Any inquiry, please call
Blood Bank MO oncall**

TRANSFUSION REACTION CHECKLIST

- 1) **To send in the TRANSFUSION REACTION KIT BOX to blood bank (immediately):**
 - Transfusion-related adverse event form BTS/HV/3/2016 (to fill up completely from section A to Section I)
 - Patient's blood sample in EDTA tube (5-10 mls) with PER-PAT 301 lab form and full history. For baby less than 4 months old to send 2 EDTA baby tube (0.5ml each) with mother's sample. (For Coombs test)
 - Blood bag involved (sealed in Biohazard disposal yellow bag with cable tie given)
 - PPK card (put in Biohazard specimen bag given)
- 2) **To send to pathology lab:**
 - Other blood investigations (refer to table below)

Transfusion reaction signs and symptoms		Blood investigations to be taken
Minor (any ≥ 1 of these symptoms)	<ul style="list-style-type: none"> • Increase temperature more than 1°C but less than 2°C • Chills/rigor • Urticaria/rashes/pruritus 	Coombs test only
Major (any ≥ 1 of these symptoms)	<ul style="list-style-type: none"> • Increase temperature more than 2°C 	<ol style="list-style-type: none"> 1. Coombs test 2. Blood C&S
	<ul style="list-style-type: none"> • Dyspnea/hypoxia • Pain (loin, back, chest) • Hypo/hypertension • Jaundice • Haemoglobinuria • Severe allergic reaction 	<ol style="list-style-type: none"> 1. Coombs test 2. FBP 3. LFT, AST, LDH 4. ABG 5. UFEME 6. Chest x-ray

A. Transfusion Reaction Kit Box

Consists of (Transfusion-Related Adverse Event Form, PER PAT Lab Form, 1 EDTA, 2 Biohazard specimen bag, Yellow Disposable Biohazard bag, Cable tie)



B. Classification of Transfusion Reaction

Acute (< 24 hours of transfusion)	Delayed (>24 hours of transfusion)
Immune	Immune
<ul style="list-style-type: none"> ➤ Febrile Non-Haemolytic Transfusion Reaction (FNHTR) - **most common ➤ Allergic Reaction - **most common ➤ Acute Hemolytic Transfusion Reaction ➤ Transfusion-Related Acute Lung Injury (TRALI) ➤ Anaphylaxis/Anaphylactoid Reactions 	<ul style="list-style-type: none"> ➤ Delayed Haemolytic Transfusion Reaction ➤ Transfusion Associated Graft Versus Host Disease (TA-GVHD) ➤ Post Transfusion Purpura (PTP) ➤ Immunomodulation/suppression ➤ Alloimmunization
Non-immune	Non-immune
<ul style="list-style-type: none"> ➤ Transfusion Associated Circulatory Overload (TACO) ➤ Bacterial Contamination/Septic Transfusion Reaction ➤ Transfusion Associated Dyspnoea (TAD) ➤ Hypotensive Transfusion Reaction 	<ul style="list-style-type: none"> ➤ Transfusion Transmitted Infection (TTI) ➤ Transfusion Associated Haemosiderosis

**** MOST COMMON**

C. Febrile Non-Hemolytic Transfusion Reactions (FNHTR)

- Defined as temperature increase of more or equal to 1°C associated with transfusion and without any other explanation.
- It is due to anti-leucocyte antibodies in those previously immunized by pregnancy or previous transfusion. FNHTR may also be the result of accumulated cytokines in a cellular blood component.
- Temperature rise may begin early during transfusion or delayed in onset for up to four hours after completion
- In severe cases, symptoms may include shivering, flushing, palpitations, tachycardia, headache and rigors.
- If FNHTR occurs during transfusion, it can be managed by stopping the transfusion and giving an antipyretic. Blood culture should be taken if bacterial contamination is suspected.

D. Allergic Transfusion Reaction

(a) Mild

- Urticaria, rash, flushing or itchiness with no other symptoms. Usually caused by hypersensitivity to allergens or plasma proteins in the transfused unit.
- Transfusion should be stopped temporarily while an antihistamine is administered. Transfusion may then be resumed with slow transfusion and close monitoring if there is no progression of symptoms after 30 minutes.

(b) Moderate

- Wheezing/angioedema with or without flushing, urticaria or rash but without respiratory compromise or hypotension.
- Give antihistamine by slow intravenous injection, oxygen therapy, IV hydrocortisone (may require), salbutamol nebulizer can also be given for respiratory symptoms
- For patients who had moderate/frequent mild allergic reaction following transfusion, can give oral antihistamine 30 minutes before transfusion. If antihistamine insufficient, can administer hydrocortisone 1 hour prior transfusion.

(c) Severe

- Within few seconds or minutes after transfusion started. Can present with severe hypotension, cough, bronchospasm, laryngospasm, angioedema, urticaria, nausea, vomiting, diarrhea, shock and/or loss consciousness.
- Stop transfusion immediately. Follow anaphylaxis management flowchart.

11. GUIDELINES ON TRANSFUSION OF BLOOD AND BLOOD COMPONENT IN Rh(D)-NEGATIVE PATIENT

In elective cases involving Rh(D) negative patient, the treating clinician shall inform the blood bank the case at least 7 days prior to the procedure that may require transfusion. This notification is essential to allow the hospital blood bank enough time to source for the required blood.

In emergency situation, where ABO group specific Rh(D) negative blood is not available in time, the blood bank may issue, in order of preference:

- Group O Rh(D) negative blood, or
- ABO group specific Rh(D) positive blood, only if the patient does not have pre-formed anti-D. This shall be done only after discussing with and agreed by the treating clinician and Transfusion Medicine Specialist.

12. ABO COMPATIBILITIES OF BLOOD & BLOOD PRODUCTS

PACKED CELL	PATIENT A	PATIENT B	PATIENT O	PATIENT AB
A	√	X	X	√
B	X	√	X	√
O	√	√	√	√
AB	X	X	X	√

PLATELET	PATIENT A	PATIENT B	PATIENT O	PATIENT AB
A	PLATELET CROSSGROUPING IS ALLOWED (DECISION FOR PLATELET CROSSGROUPING BY BLOODBANK)			
B				
O				

FFP/CRYO	PATIENT A	PATIENT B	PATIENT O	PATIENT AB
A	√	X	√	X
B	X	√	√	X
O	X	X	√	X
AB	√	√	√	√

Appendix A

EXAMPLE OF COMPLETE GSH FORM

PER-SS-BT 105
(Revisi: 1/2016)

**BORANG PERMOHONAN TRANSFUSI DARAH
PERKHIDMATAN TRANSFUSI PERUBATAN**

(Mesti dipenuhi dalam dua salinan. Tulis dengan pen mata bulat dan sila tandakan 'x' dalam petak yang berkenaan.)

No. Makmal		Nama (Tulis penuh dalam huruf besar)		No. Kad Pengesahan		No. Daftar	
		ALIA BINTI AHMAD		I40101104300		56430	
Hospital	Unit	Ward	Barang	Umur	Jantina		
HTAR	ED	YZ	MELAYU	69	PEREMPUAN		
Pegawai Kesihatan (Kategori)	Kelas	Pegawai/Peramu	Pakar Perubatan	Kumpulan Darah Ada/Tiada			
		MR. Z		O POS (RM)			
Diagnosis		Sebab transfusi komponen darah		Hb % atau keputusan lain yg berkaitan (F8 count etc)			
RIGHT FEIUR FRACTURE		SYMPTOMATIC ANEMIA		68			
Terdapat darah mana lain? Ya/Tiada		Adakah sebarang transfusi darah yang terdahulu		Komplikasi?			
Sekiranya pesakit sedang menerima transfusi		Bil. Lahir Baru		Tanda-tanda "Hemolytic Disease of Newborn"			
		5					

Sampel darah diambil dan diabel oleh:

Saya mengesahkan bahawa saya telah mengenalpasti identiti pesakit dengan betul secara langsung* dan memastikan gelaran pengantara pesakit. Saya juga mengesahkan bahawa saya telah mengenalpasti sendiri sampel darah pesakit tersebut dan melabelkannya dengan betul untuk setiap sahaja arya darah.

Tandatangan: **DR. NUR SYAMRAH BINTI ABDUL RAHIM**
 Nama: **PEGAWAI PERUBATAN**
 Jawatan: **AMBIK PERUBATAN TRANSFUSI**
 Tarikh: **1/1/24** Waktu: **2.00 pm** di pejabat

* atau oleh keluarga / penjaga untuk kes-kes pedatik dan pesakit yang tidak sedarkan diri.

<p>WISAMA</p> <p><input type="checkbox"/> WHOLE BLOOD</p> <p><input type="checkbox"/> PACKED CELLS</p> <p><input type="checkbox"/> REDPACK</p> <p><input type="checkbox"/> PLATELET CONCENTRATE</p> <p><input type="checkbox"/> CRYOPRECIPITATE</p> <p><input type="checkbox"/> FRESH FROZEN PLASMA</p> <p><input type="checkbox"/> GYOSUPERMATANT</p>	<p>SPECIAL REQUIREMENT</p> <p><input type="checkbox"/> WASHED</p> <p><input type="checkbox"/> FILTERED</p> <p><input type="checkbox"/> IRRADIATED</p> <p><input type="checkbox"/> OTHERS</p> <p><input checked="" type="checkbox"/> GROUP, SCREEN & HOLD</p>
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Nota:-

- Sila tandakan Dns-Gnt sampel darah dalam tab EDTA. Utiak maksimum upon keserasian memerlukan masa 2 jam.
- Dalam keadaan kecemasan, sila hujung makmal transfusi darah untuk pembekalan segera berdasarkan keserasian pada peringkat awal ujian. Darah yang dibekalkan mempunyai maklumat keserasian yang kecil. Penggunaan darah tersebut merupakan tanggungjawab pegawai perubatan yang merawat.
- Darah yang telah digunakan perlu dipulangkan dengan kadar segera ke makmal transfusi kepada Pegawai Perubatan rawatan dipanggil untuk tempoh simpanannya di wad.
- ANARAN:** Setiap transfusi darah membawa risiko infeksi.

WARNING: Every blood transfusion carries a small risk of infection.

Rekod diperlukan

- Serta merta, saya ujian keserasian darah (sila G)
- Degara (lihat Nota 2)
- Pada _____ jam _____ pg/ptg (lihat Nota 3)
- Sampel di simpan selama 24 jam

Saya mengesahkan bahawa sampel darah yang diantarkan ini telah diambil daripada pesakit bernama seperti di atas dan diantarkan mengikut prosedur kerja yang telah ditetapkan. Saya juga mengesahkan bahawa setelah diperiksa, pesakit ini memerlukan atau memerlukan:

Tandatangan: **DR. NUR SYAMRAH BINTI ABDUL RAHIM**
 Nama: **PEGAWAI PERUBATAN**
 Jawatan: **AMBIK PERUBATAN TRANSFUSI**
 (Hund besar)

KHABAR UNTUK KEGUNAAN HARTANGAN MAKMAL TRANSFUSI DARAH


Permintaan dibuat	T/Tangan	KESERASIAN DARAH								Kump. Darah	T/Tangan	Tarikh & masa
		Ant. A	Ant. B	Ant. AB	Ant. A	Sel. B	Sel. O	Sel. O	Sel. O			
Tarikh: _____												
Waktu: _____												

Serum pesakit diawatkan dengan temp. darah no. _____

URAN KESERASIAN DARAH	Cetakan			
	RT	37°C	AHG	T/Tangan
				Tarikh & masa

Appendix B


PER-PAT 301 FORM FOR ANTIBODY IDENTIFICATION



KEMENTERIAN KESIHATAN MALAYSIA
PERKHIDMATAN PATOLOGI
HOSPITAL TENGKU AMPUAN RAHMAH KLANG

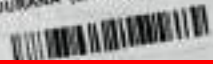
PER-PAT 301


UNTUK BIDAN/ NAMA MAKMAL				
LAB NO.				
1. Nama: Chew Wendy	2. No Pendaftaran: 43162			
3. No K/P: 960202084306	4. Jantina: <input type="checkbox"/> Lelaki <input checked="" type="checkbox"/> Perempuan			
5. Umur: 38	6. Katanan: CINA			
8. Tarikh Mula Wad:	9. Pekerjaan:			
7. Wad/ Klinik: 5E				
10. Taraf Perikubwahan				
11. <input type="checkbox"/> Boven <input type="checkbox"/> Persema				
12. No. Laporan Dialek:	13. Status Penyakit			
14. Ringkasan Klinikal, Penyakit Persebaran dan Rincian Keluarga				
<p>28 years, G₂P₁₊₂ at 38 weeks admitted for IOL for GDM on diet <small>Control</small></p> <p>ANC 1) 1 previous LSCS for your pregnancy 2) Grandmultipara 3) GDM on diet control 4) IBA in pregnancy</p> <p>No history of transfusion before Blood group - B positive Antibody screening - positive</p>				
15. Diagnosis: GDM				
16. Kategori Pemeriksaan / Jenis Ujian				
Patologi Kimia	Radiologi	Hematologi	Dieta / Saizologi	Histologi / Serologi
B. Glucose <input type="checkbox"/>	Bid. Chest <input type="checkbox"/>	FDP <input type="checkbox"/>	Spesimen	Spesimen
B. Urea <input type="checkbox"/>	ESR <input type="checkbox"/>	BM Asp <input type="checkbox"/>		Titras
S. Elix <input type="checkbox"/>	HEMP <input type="checkbox"/>	IB Analysis <input type="checkbox"/>		
B. Gasier <input type="checkbox"/>	U. Sugar <input type="checkbox"/>	Cagulation <input type="checkbox"/>		
S. Bilirubin <input type="checkbox"/>	U. Alb <input type="checkbox"/>			
LFT <input type="checkbox"/>	U. MI <input type="checkbox"/>			
Se. Creatinin <input type="checkbox"/>	Secc MI <input type="checkbox"/>			
17. Pengambilan Specimen: 1/1/24	Tarikh: 1/1/24	Nama: DR. NUR ENGKORAH BINTARU BIN...		
18. Nama Doktor:		PERUMS PATOLOGI HOSPITAL TENGKU AMPUAN RAHMAH KLANG Bertulis dan Cap Doktor		
19. Tarikh:				

Appendix E


KEMENTERIAN KESIHATAN MALAYSIA
PERKHIDMATAN PATOLOGI
HOSPITAL TENGGU AMPUAN RAHIMAH KLANG


 LAB NO.

1. Nama: _____ 2. No. Pendaftaran: _____ 3. No. KP: 26/10/2023 10:04 WAD SCH 12 0 BLN 2267972 CB231157 3. Umur: BPD JURANGA (IND TWAN) 8. Tarikh Masuk Wad: 	4. Jantina: <input type="checkbox"/> Lelaki <input type="checkbox"/> Perempuan 7. Wad / Klinik: _____ 10. Taraf Perikatan: _____ 11. <input type="checkbox"/> Bayar <input type="checkbox"/> Percuma 12. No. Laporan Dahulu: _____ 13. Bilangan Penting: _____																																							
<div style="border: 2px solid red; padding: 5px; display: inline-block; color: red; font-weight: bold;">PRINTED LABEL</div>																																								
14. Ringkasan Klinikal, Penyakit dan Pembesaran dan Riwayat Keluarga DOR 24/10/23 @ 0403 @ SMLBU @ 36w 4d / ASK 4 / 6w 3185g @ 27y/o / para 2 / GAVE / HIV VDRL NR Hx of splenomegaly at 45 @ c. on @ photo	<table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Ya</td> <td style="text-align: center;">Tidak</td> </tr> <tr> <td>Saiz besar</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Lymphadenopathy</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Hepatosplenomegaly</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Splenomegaly</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Bleeding Tendency</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>H/O Transfusion</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td colspan="3">Haematuria: _____</td> </tr> <tr> <td colspan="3">Dys Crystall History: _____</td> </tr> <tr> <td colspan="3">Data Makmal Terdahulu:</td> </tr> <tr> <td>Hb</td> <td colspan="2">_____</td> </tr> <tr> <td>Hemat</td> <td colspan="2">_____</td> </tr> <tr> <td>TWDC</td> <td colspan="2">_____</td> </tr> </table>		Ya	Tidak	Saiz besar	<input type="checkbox"/>	<input type="checkbox"/>	Lymphadenopathy	<input type="checkbox"/>	<input type="checkbox"/>	Hepatosplenomegaly	<input type="checkbox"/>	<input type="checkbox"/>	Splenomegaly	<input type="checkbox"/>	<input type="checkbox"/>	Bleeding Tendency	<input type="checkbox"/>	<input type="checkbox"/>	H/O Transfusion	<input type="checkbox"/>	<input type="checkbox"/>	Haematuria: _____			Dys Crystall History: _____			Data Makmal Terdahulu:			Hb	_____		Hemat	_____		TWDC	_____	
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15. Diagnosis: <u>Plague splenomegaly (splenomegaly) @ 45/70</u>																																								
16. Kategori Pemeriksaan / Jenis Ujian: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <th style="width: 20%;">Patologi Kimia</th> <th style="width: 20%;">Klinikal</th> <th style="width: 20%;">Hematologi</th> <th style="width: 20%;">Hist / Sitologi</th> <th style="width: 20%;">Histo / Sitologi</th> </tr> <tr> <td> B. Glucose <input type="checkbox"/> B. Urea <input type="checkbox"/> S. Elec <input type="checkbox"/> B. Glasa <input type="checkbox"/> S. Bilirubin <input type="checkbox"/> LFT <input type="checkbox"/> Se. Creatinine <input type="checkbox"/> </td> <td> Bld. Count <input type="checkbox"/> ESR <input type="checkbox"/> WBC <input type="checkbox"/> U. Sugar <input type="checkbox"/> U. Alb. <input type="checkbox"/> U. ME <input type="checkbox"/> Stool ME <input type="checkbox"/> </td> <td> FDP <input type="checkbox"/> RM Asp. <input type="checkbox"/> Hb Analysis <input type="checkbox"/> Coagulation <input type="checkbox"/> </td> <td> Specimen <input type="checkbox"/> _____ _____ _____ </td> <td> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Specimen</th> <th>Ujian</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table> </td> </tr> </table>		Patologi Kimia	Klinikal	Hematologi	Hist / Sitologi	Histo / Sitologi	B. Glucose <input type="checkbox"/> B. Urea <input type="checkbox"/> S. Elec <input type="checkbox"/> B. Glasa <input type="checkbox"/> S. Bilirubin <input type="checkbox"/> LFT <input type="checkbox"/> Se. Creatinine <input type="checkbox"/>	Bld. Count <input type="checkbox"/> ESR <input type="checkbox"/> WBC <input type="checkbox"/> U. Sugar <input type="checkbox"/> U. Alb. <input type="checkbox"/> U. ME <input type="checkbox"/> Stool ME <input type="checkbox"/>	FDP <input type="checkbox"/> RM Asp. <input type="checkbox"/> Hb Analysis <input type="checkbox"/> Coagulation <input type="checkbox"/>	Specimen <input type="checkbox"/> _____ _____ _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Specimen</th> <th>Ujian</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	Specimen	Ujian																											
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Specimen	Ujian																																							
17. Pengambilan Specimen: Tarikh: _____ Masa: _____ 18. Nama Doktor: _____ 19. Tarikh: _____																																								


 PEGAWAI PERUBATAN
 WAD SCH 12
 HOSPITAL TENGGU AMPUAN RAHIMAH KLANG
 No. Doktor: _____

Appendix F

BORANG PERMOHONAN TRANSFUSI DARAH PERKHIDMATAN TRANSFUSI PERUBATAN

(Mesti dipenuhi dalam dua salinan. Tulis dengan pen mata bulat dan sila tandakan < dalam petak yang berkenaan.)

No. 930759		BORANG PERMOHONAN TRANSFUSI DARAH PERKHIDMATAN TRANSFUSI PERUBATAN		No. 930759							
(Mesti dipenuhi dalam dua salinan. Tulis dengan pen mata bulat dan sila tandakan < dalam petak yang berkenaan.)											
Nama (Tulis penuh besar) JAMITHA A/P ARKIRIANTHAN		No. Kad Pengiraan 970408105832		No. Daftar 2267544							
Hospital MPR	Unit 034	Ruam SE	Bangsa INDIA	Umur 26	Jantina PERempuan						
Pegawai Kesihatan Ya/Tidak	Kelas	Rajuan/Perumak	Pakar Perunding	Kumpulan Darah A&B/Tiada							
Diagnosa			Sebab transfusi komponen darah	HB % atau keputusan lain yg berkaitan (jika patut etc)							
Transfusi darah masa ini? Ya/Tidak		Jika ya, sebutkan tarikh transfusi darah yang terakhir		Kumpulan?							
Sekiranya pesakit seorang wanita, nyatakan --		Si, kehamilan		Terdahulu pernah melahirkan bayi/kanak-kanak							
<div style="border: 2px solid red; padding: 5px; display: inline-block;"> NO SIGNATURE & OFFICIAL STAMP </div>											
Sampel darah diambil dan diabel oleh:		WARRANT <input type="checkbox"/> WHOLE BLOOD <input type="checkbox"/> PACKED CELLS <input type="checkbox"/> REDPACK <input type="checkbox"/> PLATELET CONCENTRATE <input type="checkbox"/> CRYOPRECIPITATE <input type="checkbox"/> FRESH FROZEN PLASMA <input type="checkbox"/> CRYOPRECIPTANT		LEGAL REQUIREMENT: <input type="checkbox"/> WASHED <input type="checkbox"/> FILTERED <input type="checkbox"/> IRRADIATED <input type="checkbox"/> OTHERS <input checked="" type="checkbox"/> GROUP, SCREEN & HOLD							
Saya mengesahkan bahawa saya telah mengesahkan diri pesakit dengan bertanya secara langsung dan memeriksa pengiraan pesakit. Saya juga mengesahkan bahawa saya telah mengambil sendiri sampel darah pesakit tersebut melaluinya dengan cara yang terbaik sahaja yang diambil.		Taridatengon Nama Jawatan Tarikh _____ Waktu _____ pagibetang		* (jika ahli keluarga / penjaga untuk kes-kes pedatrik dan pesakit yang tidak sedarkan diri)							
Nota:- (1) Sila hantarkan 3ml-5ml sampel darah dalam tub EDTA. Untuk makluman, ujian kecekapan memerlukan masa 2 jam. (2) Dalam keadaan kecemasan, sila hantarkan sampel darah untuk pembekuan segera berdasarkan kekosongan pada perintang awal ujian. Darah yang beku dalam memuliyai risiko kebekuan yang tinggi. Sampel darah tersebut merupakan tanggungjawab pegawai perubatan yang mengambil sampel. (3) Darah yang telah digunakan hendaklah dituangkan dengan keder segera ke dalam botol pembuangan. Pegawai Perubatan mestinya dipanggil untuk mengumpulkannya di waktu. (4) AMARAN: Setiap transfusi darah membawa risiko infeksi. WARNING: Every blood transfusion carries a small risk of infection.		Bekalan diperlukan: (a) Beda merta, tanpa ujian kecekapan darah (jika C) <input type="checkbox"/> (untuk menyelaraskan rhesus) (b) Segawa (lihat Nota 2) <input type="checkbox"/> (c) Papan _____ (jika) <input type="checkbox"/> (lihat Nota 3) (d) Sampel sampel selama 24 jam <input type="checkbox"/> Saya mengesahkan bahawa sampel darah yang diberikan ke bawah telah diambil daripada pesakit sebelum di atas dan diabaikan mengikut prosedur kerja yang telah ditetapkan. Saya juga mengesahkan bahawa setiap sampel pesakit ini mematuhi ujian makmal transfusi.		Taridatengon Cop dan Nama Pegawai Perubatan (Hantarkan) HOSPITAL							
KHAS UNTUK KEGUNAAN KAKITANGAN MAHAL TRANSFUSI DARAH											
Pemilihan darah	TITangan	Am A	Am B	Am AB	Sel A	Sel B	Sel O	Am D	Kumpulan Darah	TITangan	Tarikh & masa
Tarikh											
Waktu	034										
Serum pesakit disediakan dengan bog darah no.	UJIAN KESERABIAN DARAH							Catatan			
	R.T.	SPC	AKG	TITangan	Tarikh & masa						
					22 OCT 22 10:30am						

Appendix G

PBK-09-01 100
(Pind. 1/2016)

**BORANG PERMOHONAN TRANSFUSI DARAH
PERKHIDMATAN TRANSFUSI PERUBATAN**

(Meati dipenuhi dalam dua salinan. Tulis dengan pen mata bulat dan sila tandakan 'x' dalam petak yang berkenaan.)

No. N: 929949

Nama: (Tulis huruf besar) MUHAMMAD HAIRIL ANWAR BIN ISMAIL				No. Kad Pengiraan 960263105747				No. Daftar 5262278			
Hospital HTAR		Unit CHK		Ward EA		Bangsa M		Umur 27		Jantina MALE	
Pegawai Kerajan Ya/Tidak		Kelas		Bayar/Pernama		Pakar Pemandu MR. HALIM DR. DR. HANIF		Kumpulan Darah Awa/Tiada			
Diagnosa ICN @ demam				Sebab transfusi komponen darah engang bledg BBL 2L				Hb % atau keputusan lain yg berkaitan (jika ada) etc) Hb 11.4 ABG: 9-6			
Transfusi darah masa lalu? Ya/Tidak		Jika 'ya' sebutkan tarikh transfusi darah yang terakhir				Komplikasi?					
Bekurnya pesakit seorang wanita. Nyatakan --		Bil. bahan-bahan		Bil. Unit Meati		Tanda-tanda 'Hemolytic Disease of Newborn'					

Sampel darah diambil dan dilabel oleh:

Saya mengesahkan bahawa saya telah mengesahkan identiti pesakit dengan bertanya secara langsung dan memeriksa gelang pengenal pesakit. Saya juga mengesahkan bahawa saya telah mengambil sendiri sampel darah pesakit tersebut dan melabelkannya dengan nama pesakit sahaja ianya diambil.

Tandatangan: **DR. LIM PEI SIAN**
Pegawai Perubatan (UD43) M.M.C. [redacted]

Name: _____
Jawatan: _____
Tarikh: **17/10/23** Waktu: _____ pagi/petang

* (atau ahli keluarga / peribadi untuk ke-kes pediatric dan pesakit yang tidak sedar akan diri)

**NO OFFICIAL
STAMP**

<p>MOHON</p> <p><input type="checkbox"/> WHOLE BLOOD</p> <p><input checked="" type="checkbox"/> PACKED CELLS 2L</p> <p><input type="checkbox"/> PLATELET CONCENTRATE</p> <p><input type="checkbox"/> ORYOPRECIPITATE</p> <p><input type="checkbox"/> FRESH FROZEN PLASMA</p> <p><input type="checkbox"/> CRYOSUPERNATANT</p>	<p>SPECIAL REQUIREMENT:</p> <p><input type="checkbox"/> WASHED</p> <p><input type="checkbox"/> FILTERED</p> <p><input type="checkbox"/> IRRADIATED</p> <p><input type="checkbox"/> OTHERS: _____</p> <p><input type="checkbox"/> GROUP, SCREEN & HOLD</p>
--	--

Nota:-

- Sila hantarkan 5ml-5ml sampel darah dalam tub EDTA. Untuk makluman, ujian keserasian memerlukan masa 2 jam.
- Dalam keadaan kecemasan, sila hubungi makmal transfusi darah untuk pembekalan segera berdasarkan keserasian pada peringkat awal ujian Darah yang dibekalkan mempunyai risiko ketidakserasian yang kecil. Penggunaan darah tersebut merupakan tanggungjawab pegawai perubatan yang merawat.
- Darah yang tidak dipurukan perlu dibekukan dengan kadar segera ke makmal transfusi keawal Pegawai Perubatan moments diperjangkan tempoh simpanannya di waktu.
- AMARAN:** Setiap transfusi darah membawa risiko infeksi.

WARNING: Every blood transfusion carries a small risk of infection.

Bekuan diperlukan

(x) Sedia merta, tanpa ujian keserasian darah **17/10/23 1:00pm**

(y) Segera (lihat Nota 2)

(z) Pada _____ jam _____ PG/PM (lihat Nota 3)

(d) Sampel disimpan selama 24 jam.

Saya mengesahkan bahawa sampel darah yang diminta ini telah diambil daripada pesakit bernama _____ di atas dan dilabelkan mengikut prosedur kerja yang telah ditetapkan. Saya juga mengesahkan bahawa setelah diperkaji pesakit ini memerlukan akan menerima transfusi darah.

Tandatangan: **DR. LIM PEI SIAN**
Cop dan Nama Pegawai Perubatan (Mundul Meati) **UD43 M.M.C. [redacted]**

Appendix H



PRE PRINTED LABEL



Appendix I



INAPPROPRIATE
LABELLING

Appendix J



SENDING EMPTY TUBE
WITHOUT BLOOD
SAMPLE

Appendix K



SAMPLE
LYSED



REFERENCES

1. Handbook of Clinical Use of Blood, 3rd Edition 2020, National Blood Centre, Ministry of Health, Malaysia
2. Transfusion Practice Guidelines for Clinical and Laboratory Personnel, 4th Edition 2016, National Blood Centre, Ministry of Health, Malaysia