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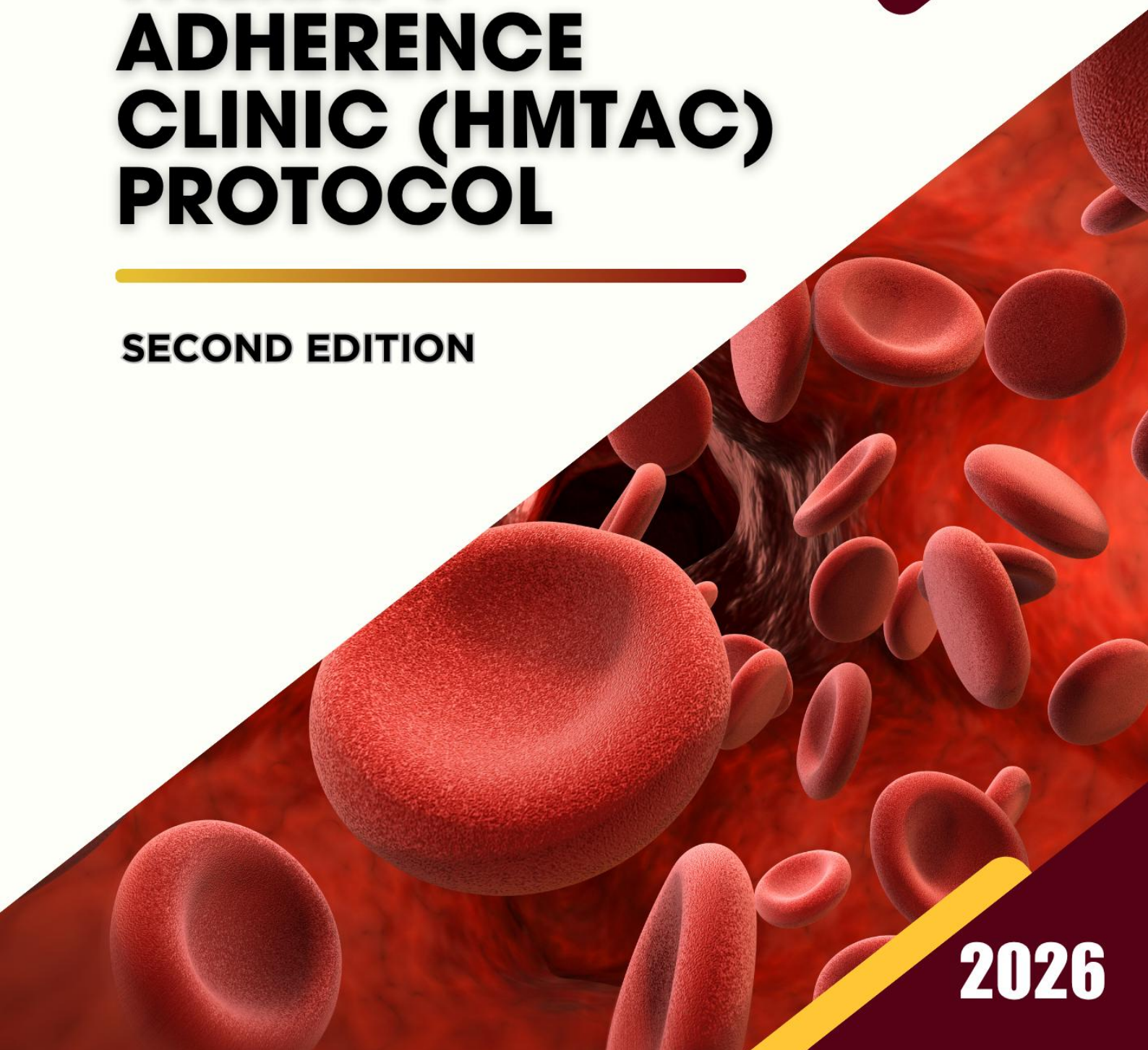
Ministry of Health Malaysia
Pharmaceutical Services Programme

HAEMOPHILIA MEDICATION THERAPY ADHERENCE CLINIC (HMTAC) PROTOCOL

SECOND EDITION



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Second Edition (September 2026)

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Lot 36, Jalan Profesor Diraja Ungku Aziz,
46200 Petaling Jaya, Selangor, Malaysia
Tel: 603 – 7841 3200
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This edition was produced after reviewing the most recent evidence at the time of development. Every healthcare provider is responsible to make appropriate clinical judgement in consideration of each patient's condition at presentation based on treatment options available locally.

FOREWORD

Pharmacists play a pivotal role in the multidisciplinary management of patients with haemophilia, ensuring optimal and safe use of therapies while supporting adherence and improving treatment outcomes. Recognising this vital role, the Ministry of Health (MOH) has developed this updated protocol as a comprehensive guide for pharmacists involved in the Haemophilia Medication Therapy Adherence Clinic (HMTAC) service.

This version is an update of the protocol first published in 2012, incorporating the latest evidence, clinical practices, and more than a decade of experience in delivering care to patients with haemophilia. As of 2026, the HMTAC service is being offered in 12 hospitals across the country, reflecting the growing commitment to standardised, high-quality pharmaceutical care for patients nationwide.

This protocol aims to ensure consistency in service delivery across all facilities, empowering pharmacists to make meaningful contributions to patient care alongside other healthcare professionals. Through structured education, adherence monitoring, and evidence-based interventions, pharmacists can play a key role in improving clinical outcomes and enhancing the quality of life for individuals living with haemophilia.

I would like to extend my sincere congratulations and appreciation to all contributors for their invaluable effort and dedication in developing this updated protocol. Your commitment and collaboration will undoubtedly continue to strengthen the delivery of haemophilia care within the Ministry of Health.

Thank you.

ZUHAINI BINTI MUKRIM

Director
Pharmacy Practice & Development Division
Pharmaceutical Services Programme
Ministry of Heath Malaysia

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1.0. Introduction

Haemophilia Medication Therapy Adherence Clinic (HMTAC) is part of a multi-disciplinary service in the management of haemophilia patients on factor replacement therapy. This protocol serves as a guide to establish and provide standardized practice in all HMTACs.

2.0. Specific Objectives

2.1. To serve as an educational resource to help patients, family members and other caregivers (e.g. school teachers) understand more about haemophilia and its management

2.2. To help patients identify and manage bleeds effectively, so as to maintain good attendance at school or at work, and to live an active and normal life

2.3. As a contentious effort to lower patients' morbidity and provide cost-effective care in the long term

2.4. To help patients identify medications, herbs or over-the-counter products that may interfere with treatment or disease

2.5. To provide consultative and educational services to physicians, nurses and other healthcare providers on factor replacement therapy and related issues

2.6. To conduct research on factor replacement therapy-related areas

3.0. Scope of Service

3.1. The clinic shall operate on any agreed upon day(s) with the respective departments involved

3.2. The requirements of patients' visits to the pharmacist shall be decided upon based on scope of activity of HMTAC

3.3. A teamwork approach shall be adopted to provide a holistic patient care

3.4. Patient recruitment and follow-up of cases will be based on mutual agreement of the patient and pharmacist

3.5. Activities include monitoring of bleeding frequency, usage and timely infusions of factor replacement, monitoring of patient diary recordings, drug/food/herbs history taking, patient counselling, regimen adjustment

3.6. Assessment and recommendation based on the degree of control of bleeds and the need for additional coverage (i.e.: during surgical procedures, increased activities etc.)

4.0. Manpower Requirement

The number of trained pharmacists (fully trained/ECHO) shall be based on the number of patients scheduled per day. An appropriate number of pharmacists is required to ensure smooth operation and continuity of service.

5.0. Appointment

All appointments are scheduled by the pharmacist with the help of other healthcare providers professionals in the clinic.

6.0. Dispensing

Factor replacement shall be dispensed in the clinic to the patients or caregivers with appropriate containers for proper storage conditions.

7.0. Quality Assurance

The service shall be continuously assessed to ensure that patients are receiving optimal care.

8.0. Documentation and Reports

8.1. All information shall be documented in patients' medical records. The documents involved are:

8.1.1. HMTAC Agreement Form (Appendix 3)

8.1.2. HMTAC Diary (Appendix 4)

8.1.3. Bleeding Calendar (Appendix 5)

8.1.4. Factor Replacement Log (Appendix 6)

8.1.5. Pharmacist Assessment Form – First Visit (Appendix 7)

8.1.6. Pharmacist Assessment Form – Subsequent Visit (Appendix 8)

9.0. General Procedures

9.1. Selection of Patients

Patients who meet the criteria as below shall be enrolled into the programme :

9.1.1. Patients who are receiving factor replacement therapy

9.1.2. Patients who agree to participate in HMTAC

9.2. Registration

Patients shall follow the hospital's procedures and policies for registration.

9.3. Blood tests

Blood tests required shall be obtained by the relevant healthcare professionals.

9.4. Preparation

Relevant documents and necessary items shall be made available at a designated area identified for HMTAC. This area shall be deemed suitable for counselling and other HMTAC activities.

9.5. Adherence Assessment

The patient's adherence to therapy shall be assessed at Visit 1, Visit 6 and whenever necessary.

9.6. Patient Education

Each patient shall be counselled based on the pre-determined counselling programme, stressing on the areas he/she is lacking in knowledge. The patient's comprehension level shall be considered and education aids shall be used when necessary. All education sessions and counselling done shall be documented.

9.7. Monitoring and Evaluation

Patient's response to therapy shall be evaluated at each visit from patient's diary, interview and blood results (if any). All information and action taken shall be recorded.

9.8. Dosage Adjustment

Dosage adjustment based on the types and frequency of bleeds shall be discussed with the physician prior to instructing patient and/or caregiver.

9.9. Discharge criteria

HMTAC pharmacist can discharge haemophilia patient who fulfil any one (1) of the following criteria:

9.9.1. Defaulted scheduled appointment for six (6) months and patients are uncontactable

9.9.2. Patients discharged/ indefinitely transferred to other facilities for follow-up

9.9.3. Patients who are recruited into clinical trials

10.0. Responsibilities

10.1. The responsibilities of the pharmacist are as follows:

10.1.1. Explain the purpose of HMTAC and its potential impact to the patient

10.1.2. Assess the patient's knowledge and adherence level prior to commencement of education

10.1.3. Educate the patient on the disease and its appropriate management

10.1.4. Monitor blood results (if applicable)

10.1.5. Monitor and document factor replacement usage and patient's bleeding pattern

10.1.6. Monitor and discuss treatment-related issues

10.1.7. Monitor and assess suitability of patient's supplement regimen (if applicable)

10.1.8. Monitor and assess for any possible drug-drug, drug-supplement interactions (if applicable)

11.0. Referral

11.1. The patient shall be referred to the physician in the following situations:

11.1.1. Uncontrolled bleeding requiring more than two doses of factor replacement

11.1.2. Haematuria

11.1.3. Severe or life-threatening bleed

11.1.4. Persistently non-compliant to therapy or appointment

11.1.5. Requiring dosage adjustment based on bleeding trend

11.1.6. Requiring laboratory monitoring (if applicable)

11.2. The pharmacist shall suggest to the physician for patient referral to other disciplines in the following situations:

11.2.1. Nursing – for consumables (e.g.: needles, syringes, alcohol swab etc.) and/or assessment/counselling on techniques of administration

11.2.2. Physiotherapy – for suitable exercise regimen/activities and/or joint/muscles assessment

11.2.3. Counsellor – for social issue

11.2.4. Dental – for dental issue

11.2.5. Others

12.0.Standard operating procedures

12.1. Visit 1 (Appendix 1a)

12.1.1. The patient will register at the clinic according to individual institution's policies and procedures

12.1.2. The pharmacist will give an overview about HMTAC and the visit requirements (Appendix 2a, 2b)

12.1.3. The patient will be recruited upon signing the HMTAC Agreement Form (Appendix 3)

12.1.4. The pharmacist will assess patient's adherence to therapy using available adherence methods

12.1.5. The pharmacist will review the patient and conduct intervention (if necessary)

12.1.6. Counselling and patient education Visit 1 (will be provided based on the patient's depth of knowledge)

12.1.7. The pharmacist will complete the Pharmacist Assessment Form - First Visit (Appendix 7) and Factor Replacement Log (Appendix 6)

12.1.8. The pharmacist will provide the HMTAC Diary (Appendix 4) and Infusion Instructions (Appendix 4) to the patient

12.1.9. The pharmacist will countercheck the factor replacement supply and dispense according to institutional policy

12.1.10. The pharmacist will schedule the patient's next appointment

12.1.11. The pharmacist will complete all other relevant documentation

12.2. Visit 2 – 5 (Appendix 1b)

12.2.1. The patient will register at the clinic according to individual institution's policies and procedures

12.2.2. The pharmacist will check the patient's HMTAC Diary and ensure complete diary entry. Recording errors will be corrected if necessary

12.2.3. The pharmacist will document all information from the HMTAC Diary (Appendix 4) into the Bleeding Calendar (Appendix 5) and Factor Replacement Log (Appendix 6)

12.2.4. The pharmacist will review the patient and conduct intervention (if necessary)

12.2.5. Counselling, revision and education will be provided based on patient's visit as follows :

12.2.5.1. Patient education Visit 2

12.2.5.2. Patient education Visit 3

12.2.5.3. Patient education Visit 4

12.2.5.4. Patient education Visit 5 – Revision of all chapters

12.2.6. The pharmacist will complete the Pharmacist Assessment Form – Subsequent Visit (Appendix 8) and Factor Replacement Log (Appendix 6)

12.2.7. The pharmacist will provide Infusion Instructions (Appendix 4) to the patient

12.2.8. The pharmacist will countercheck the factor replacement supply and dispense according to institutional policy

12.2.9. The pharmacist will schedule the patient's next appointment

12.2.10. The pharmacist will complete all other relevant documentation

12.3. Visit 6 (Appendix 1c)

12.3.1. The patient will register at the clinic according to individual institution's policies and procedures

12.3.2. The pharmacist will assess patient's adherence to therapy using available adherence methods

12.3.3. The pharmacist will check the patient's HMTAC Diary and ensure complete diary entry. Recording errors will be corrected if necessary

12.3.4. The pharmacist will document all information from the HMTAC Diary (Appendix 4) into the Bleeding Calendar (Appendix 5) and Factor Replacement Log (Appendix 6)

12.3.5. The pharmacist will review the patient and conduct intervention (if necessary)

12.3.6. Counselling, revision and education will be provided based on patient's knowledge

12.3.7. The pharmacist will complete the Pharmacist Assessment Form – Subsequent Visit (Appendix 8) and Factor Replacement Log (Appendix 6)

12.3.8. The pharmacist will provide Infusion Instructions (Appendix 4) to the patient

12.3.9. The pharmacist will countercheck the factor replacement supply and dispense according to institutional policy

12.3.10. The pharmacist will schedule the patient's next appointment

12.3.11. The pharmacist will complete all other relevant documentation

12.4. Visit 7 Onwards (Appendix 1b)

12.4.1. The patient will register at the clinic according to individual institution's policies and procedures

12.4.2. The pharmacist will check the patient's HMTAC Diary and ensure complete diary entry. Recording errors will be corrected if necessary

12.4.3. The pharmacist will document all information from the HMTAC Diary (Appendix 4) into the Bleeding Calendar (Appendix 5) and Factor Replacement Log (Appendix 6)

12.4.4. The pharmacist will review the patient and conduct intervention (if necessary)

12.4.5. Counselling, revision and education will be provided based on patient's knowledge

12.4.6. The pharmacist will complete the Pharmacist Assessment Form – Subsequent Visit (Appendix 8) and Factor Replacement Log (Appendix 6)

12.4.7. The pharmacist will provide Infusion Instructions (Appendix 4) to the patient

12.4.8. The pharmacist will countercheck the factor replacement supply and dispense according to institutional policy

12.4.9. The pharmacist will schedule the patient's next appointment

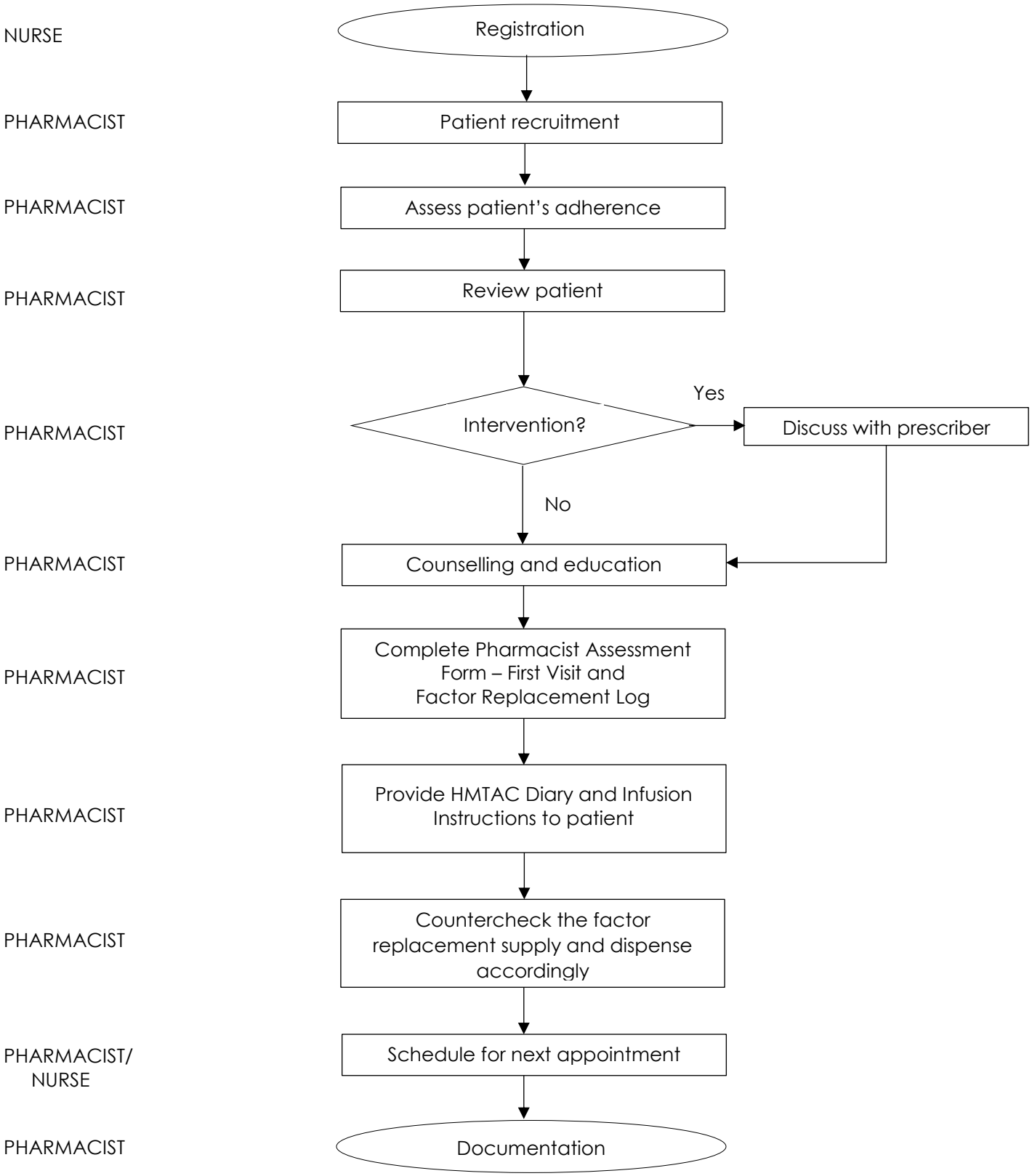
12.4.10. The pharmacist will complete all other relevant documentation

A summary of the standard operating procedure is as follows:

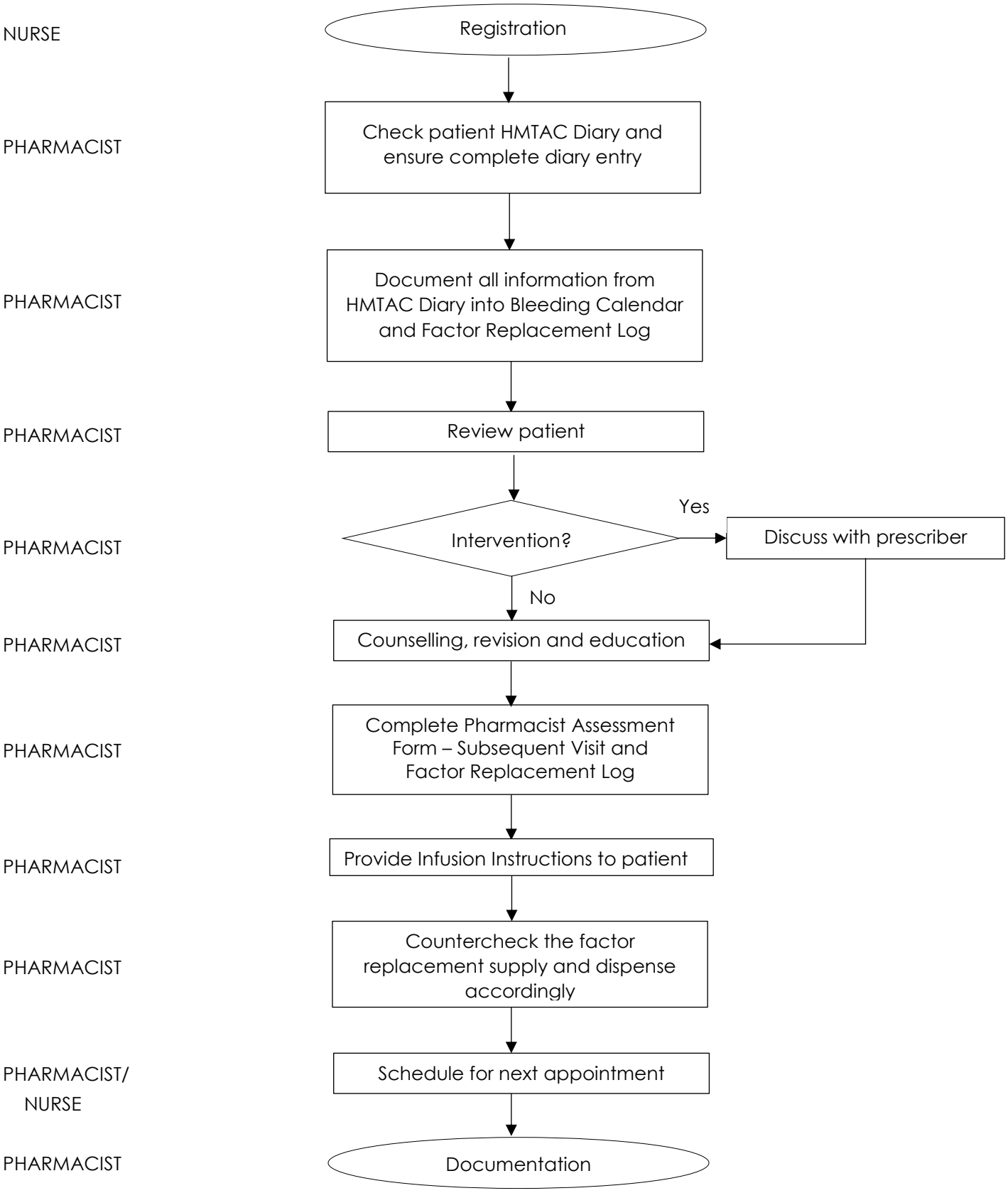
ACTIVITY	APPENDIX	VISIT NO.						
		1	2	3	4	5	6	7
I. ASSESSMENT AND EDUCATION								
Brief explanation about HMTAC	*2a, 2b*	■						
Patient assessment: a. Adherence Assessment		■					■	
Patient education Visit 1		■						
Patient education Visit 2			■					
Patient education Visit 3				■				
Patient education Visit 4					■			
Patient education Visit 5 - Revision of all chapters						■		
Supply HMTAC Diary	*4*	■						
Check patient's HMTAC Diary. If any recording is incomplete, interview patient & document as necessary.	*4*		■	■	■	■	■	■
Document all information from the HMTAC Diary into the: a. Bleeding Calendar b. Factor Replacement Log	 *5* 6		■	■	■	■	■	■
Pharmacist Assessment Form - First Visit	*7*	■						
Pharmacist Assessment Form – Subsequent Visit	8		■	■	■	■	■	■
II. DISPENSING								
Counter check factor replacement supply: type of product, dose, strength, frequency, amount to dispense (* Dose may be ± 10% of order, rounding up to the nearest vial)		■	■	■	■	■	■	■
Instruct patient accordingly (HMTAC Diary)	4	■	■	■	■	■	■	■
Referral to other disciplines (if required)		■	■	■	■	■	■	■

APPENDICES

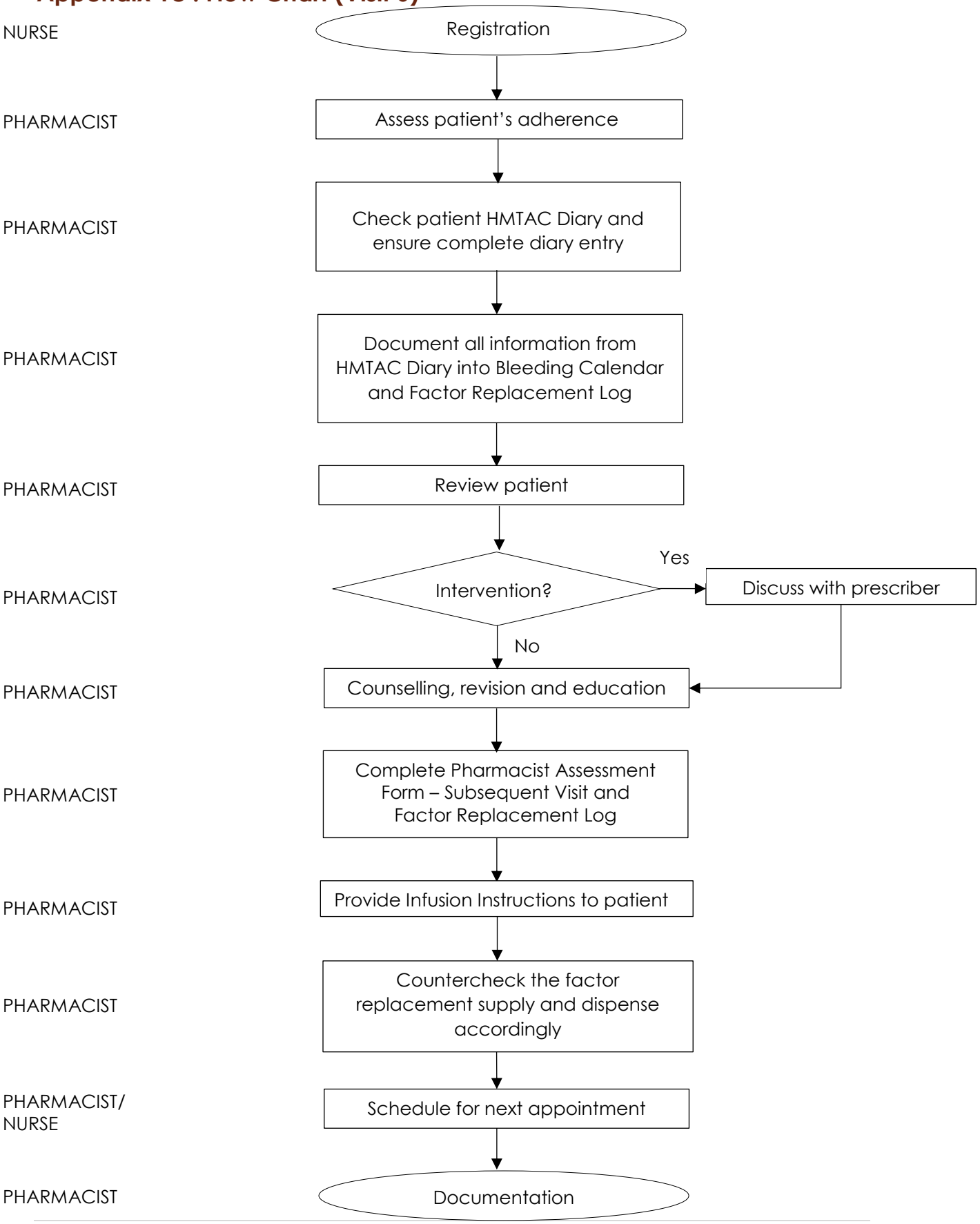
Appendix 1a : Flow Chart (Visit 1)



Appendix 1b : Flow Chart (Visit 2-5, Visit 7 onwards)



Appendix 1c : Flow Chart (Visit 6)



Appendix 2a : HMTAC Goals and Requirements

The Haemophilia Medication Therapy Adherence Clinic (HMTAC) is to help patients and their caregivers understand more about their condition and how to contribute to the optimal treatment of this condition. To help achieve the goals of HMTAC, patients are required to adhere to the following:

(i) Visit Requirements

To ensure optimum benefits from HMTAC, patients are required to come for a follow-up appointment monthly for a total of 6 visits, and subsequently thereafter, as required by the pharmacist (e.g.: once every 2 months).

(ii) Haemophilia Kit

- Every patient should strictly maintain a Haemophilia Kit containing :
  a) Patient's HMTAC Diary
  b) Cold box and ice packs
  c) Needles, syringes, alcohol swabs, gloves
  d) Sharps bin
- Upon every bleeding incident and/or usage of factor replacement, the patient's HMTAC Diary must be filled in completely and it will be checked by the HMTAC pharmacist at every visit.
- A cold box containing adequate ice packs must be brought at every visit to ensure proper transport of factor replacement.
- When the sharps bin is filled to the appropriate level, it should be brought to the healthcare facility for proper disposal of sharps.

(iii) Education

Patients will receive education about their condition and how to optimally manage infusions of treatment, with the goal to prevent long term life- and limb-threatening complications. Revision is done at every visit to ensure patients continue to retain important information regarding their treatment.

Appendix 2b : Matlamat dan Syarat HMTAC

Haemophilia Medication Therapy Adherence Clinic (HMTAC) bertujuan membantu pesakit dan ahli keluarga pesakit untuk lebih memahami tentang penyakit hemofilia. Program ini juga bertujuan untuk membimbing pesakit dan ahli keluarga mereka untuk turut serta dalam usaha mengoptimakan rawatan penyakit hemofilia. Untuk mencapai matlamat HMTAC, pesakit perlu mematuhi perkara-perkara berikut:

(i) Syarat-syarat Temujanji

Bagi mengoptimakan manfaat daripada program HMTAC, pesakit perlu datang ke klinik setiap bulan untuk 6 bulan yang pertama. Selepas itu, pesakit perlu datang untuk temujanji klinik seperti yang dijadualkan oleh Pegawai Farmasi (cth: sekali setiap 2 bulan)

(ii) Kit Hemofilia

- Setiap pesakit perlu mempunyai satu Kit Hemofilia lengkap yang mengandungi :
  a) Diari HMTAC
  b) Kotak sejuk dan pek ais
  c) Jarum, picagari, kapas beralkohol, sarung tangan
  d) Sharps bin
- Diari HMTAC wajib diisi dengan lengkap setiap kali berlaku pendarahan dan/ atau apabila faktor penggantian digunakan. Diari ini akan disemak oleh Pegawai Farmasi HMTAC pada setiap sesi temujanji.
- Kotak sejuk yang mengandungi pek ais secukupnya perlu dibawa setiap kali datang untuk sesi temujanji HMTAC. Ini adalah penting untuk mengekalkan penyimpanan faktor penggantian pada keadaan yang optimum.
- *Sharps bin* yang telah penuh perlu dibawa ke fasiliti kesihatan untuk pelupusan.

(iii) Pendidikan

Pesakit akan diberikan pendidikan tentang penyakit dan cara menguruskan rawatan dengan infusi faktor penggantian secara optimum. Pendidikan ini bertujuan untuk mengelakkan komplikasi jangka panjang yang mengancam nyawa dan menjejaskan kesihatan pesakit. Sesi ulang kaji pengetahuan pesakit akan dilaksanakan pada setiap temujanji HMTAC bagi memastikan pesakit sentiasa mengingati maklumat penting tentang rawatan.

Appendix 3 : HMTAC Agreement Form

KLINIK KEPATUHAN PENGUBATAN HEMOFILIA

HAEMOPHILIA MEDICATION THERAPY ADHERENCE CLINIC (HMTAC)

JABATAN FARMASI, HOSPITAL _____

PHARMACY DEPARTMENT, HOSPITAL _____

PERJANJIAN

AGREEMENT

Saya,_____(No. K/P:_____) sebagai

* pesakit/penjaga pesakit bersetuju menyertai program *Haemophilia Medication Therapy Adherence Clinic* (HMTAC) dianjurkan oleh Jabatan Farmasi, Hospital _____. Saya juga berjanji untuk memberikan kerjasama sepenuhnya dengan menghadiri semua sesi kaunseling yang djalankan oleh Pegawai Farmasi HMTAC serta menyertai aktiviti-aktiviti berkaitan yang bertujuan membantu pengurusan penyakit hemofilia saya secara lebih berkesan.

* Bulatkan mana yang berkenaan.

I,_____(I/C no.:_____) as

**patient/caregiver agree to join the Haemophilia Medication Therapy Adherence Clinic (HMTAC) which is organised by the Pharmacy Department of Hospital _____. I also agree to give full cooperation by attending the counselling sessions provided by the HMTAC Pharmacist and other related activities for the purpose of achieving better control of mycondition.*

** Circle where appropriate.*

Tandatangan / *Signature* : _____

Nama Pesakit / *Patient's Name* : _____

Tarikh / *Date* : _____

Tandatangan / *Signature* : _____

Nama Pegawai Farmasi / *Pharmacist's Name* : _____

Tarikh / *Date* : _____

Appendix 4

PHARMACY DEPARTMENT
JABATAN FARMASI
药房部

HOSPITAL _____

HAEMOPHILIA MEDICATION THERAPY ADHERENCE CLINIC (HMTAC)

HMTAC DIARY
DIARI HMTAC
HMTAC 日记

Name
Nama
姓名 : _____

Identification Card No.
No. Kad Pengenalan
身份证号 : _____

MRN
MRN
医疗记录编号 : _____

Personal Profile
Profil Peribadi
个人资料

Name **Nama** 姓名	
Identification Card No. **No. Kad Pengenalan** 身份证号	
MRN **MRN** 医疗记录编号	
Telephone Number **Nombor Telefon** 电话号码	
Address **Alamat** 地址	
Diagnosis **Diagnosis** 确诊	
Target Joint **Sasaran Sendi** 目标关节	
History of Serious Bleed **Sejarah Pendarahan Serius** 严重出血史	
History Inhibitor **Sejarah 'Inhibitor'** 血友病抑制物史	
Treatment **Rawatan** 治疗	☐ **Factor VIII** ☐ **Factor IX** ☐ _____

Emergency Contact Details
Maklumat Ketika Kecemasan
紧急联系资料:

Clinic's Name & Contact Number **Nama & No. Telefon Klinik** 诊所联络号码	
Pharmacist's Name & Contact Number **Nama & No. Telefon Pegawai Farmasi** 药剂师联络号码	
Nurse's Name & Contact Number **Nama & No. Telefon Jururawat** 护士联络号码	

Factor Replacement Therapy
Rawatan Penggantian Faktor
凝血因子治疗

Date Tarikh 日期	Site of Bleeding Tempat Pendarahan 出血部位	Infusion Instruction Arahan Infusi 治疗指示				Total Factor Supply Jumlah Bekalan Faktor 凝血因子数量	Next Appointment Date Tarikh Temujanji Seterusnya 下一次预约日期
		Target (%) Sasaran (%) 目标 (%)	Strength (IU) Kekuatan (IU) 剂量 (IU)	Quantity (vial) Bilangan (vial) 数量(药瓶)	Frequency Kekerapan 次数	Strength (IU) & Quantity (vial) Kekuatan (IU) & Bilangan (vial) 剂量(IU) 和数量(药瓶)	
	Prophylaxis Pencegahan 预防						
	Joint/ Muscle Sendi/ Otot 关节/肌肉				When necessary* Bila perlu* 必要时*		
	Head/ Throat/ Abdomen/ Illiopsoas Kepala/ Tekak/ Perut/ Illiopsoas 头部/喉咙/腹/髂腰肌				Infuse immediately and go to the nearest haemophilia centre. Infusi dengan segera dan pergi ke pusat hemofilia yang berdekatan. 立即前往最近的血友病中心		
	Prophylaxis Pencegahan 预防						
	Joint/ Muscle Sendi/ Otot 关节/肌肉				When necessary* Bila perlu* 必要时*		
	Head/ Throat/ Abdomen/ Illiopsoas Kepala/ Tekak/ Perut/ Illiopsoas 头部/喉咙/腹/髂腰肌				Infuse immediately and go to the nearest haemophilia centre. Infusi dengan segera dan pergi ke pusat hemofilia yang berdekatan. 立即前往最近的血友病中心		
	Prophylaxis Pencegahan 预防						
	Joint/ Muscle Sendi/ Otot 关节/肌肉				When necessary* Bila perlu* 必要时*		
	Head/ Throat/ Abdomen/ Illiopsoas Kepala/ Tekak/ Perut/ Illiopsoas 头部/喉咙/腹/髂腰肌				Infuse immediately and go to the nearest haemophilia centre. Infusi dengan segera dan pergi ke pusat hemofilia yang berdekatan. 立即前往最近的血友病中心		

* Contact haemophilia team if > 2 doses are required.
* Hubungi staf hemofilia sekiranya > 2 dos diperlukan. *如需超过两个剂量，请联系血友病医疗团队.

Bleeding Management
Pengurusan Pendarahan
出血管理

Types of Bleeding Jenis Pendarahan 出血类型	Bleeding Severity Tahap Pendarahan 出血严重程度	Requirement for Factor Replacement Keperluan Penggantian Faktor 凝血因子需求		Additional Treatment Rawatan Tambahan 辅助治疗
		Yes Ya 需要	No Tidak 不需要	
Gum, Skin (bruises), Soft tissue Gusi, Kulit (lebam),Tisu lembut 牙龈，(皮下淤青),软组织	Mild Ringan 轻微		√	Tranexamic acid Ubat 'tranexamic acid' 传明酸药
Joint, Muscle Sendi, Otot 关节，肌肉	Moderate Sederhana 中等	√		+ P.R.I.C.E* +/- Tranexamic acid +/- Ubat 'tranexamic acid' +/- 传明酸药
Blood in urine Kencing berdarah 尿血			√	Adequate Hydration Pengambilan air yang mencukupi 充足水份
Deep laceration Luka yang dalam 深度撕裂伤		√		+ P.R.I.C.E*
Iliopsoas muscle, Head, Lips, Tongue, Neck, Throat, Chest, Gastrointestinal/ Abdomen Otot iliopsoas, Kepala, Bibir, Lidah, Leher, Tekak, Dada, Usus/ Perut 髂腰肌，头部，唇，舌，颈部，咽喉，胸口，肠/胃	Severe, life-threatening Mengancam nyawa 严重危险	√		Immediately go to the hospital & contact haemophilia team Pergi ke hospital dengan segera & hubungi staf hemofilia 马上入院以及联络血友病医疗团队
*Protection, Rest, Ice, Compression, Elevation Perlindungan, Rehat, Ais, Tekanan, Tinggikan kedudukan 保护，休息，冰敷，施压，抬高				

Factor Replacement Calculation
Pengiraan Penggantian Faktor
凝血因子公式计算

Haemophilia A:
Factor VIII Dose (IU) = Desired level (%) x Body weight (kg) x 0.5

Haemophilia B
Factor IX Dose (IU) = Desired level (%) x Body weight (kg)

Hemofilia A
Dos Faktor VIII (IU) = Tahap sasaran (%) x Berat badan (kg) x 0.5

Hemofilia B
Dos Faktor IX (IU) = Tahap sasaran (%) x Berat badan (kg)

A 型血友病:
凝血因子八（IU）= 目标（%）x 体重（kg）x 0.5
B 型血友病:
凝血因子九（IU）= 目标（%）x 体重（kg）

Emergency Warning Signs and Target Level for Factor Replacement
Tanda-tanda Amaran Kecemasan dan Tahap Sasaran untuk Penggantian Faktor
紧急出血症状和凝血因子治疗剂量

Head
- Blurred vision
- Headache
- Nausea or vomiting
- Seizures
- Loss of balance or coordination
- Loss of consciousness
- Weakness or clumsiness
- Stiffness of the neck
- Drowsiness
- Mood or personality changes

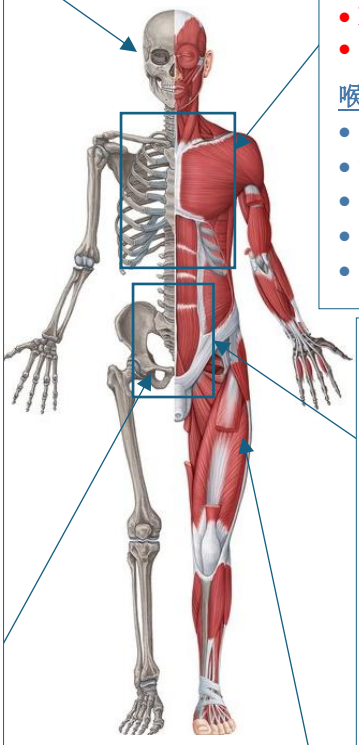
Kepala
- Penglihatan kabur
- Sakit kepala
- Loya atau muntah
- Sawan
- Kehilangan keseimbangan atau koordinasi, atau kehilangan kesedaran
- Kelemahan atau kecuaian
- Kejang leher
- Mengantuk
- Perubahan mood atau personality

头部
- 视线模糊
- 头疼
- 恶心/呕吐
- 癫痫
- 失去平衡，失去知觉/昏厥
- 虚弱/笨拙
- 肩颈僵硬
- 昏沉
- 情绪改变

Neck, throat, chest
- Pain in the chest
- Sudden loss of appetite
- Vomiting/coughing out blood
- Difficulty swallowing /breathing
- Pain or swelling in the neck or throat

Leher, tekak / kerongkong, dada
- Sakit dada
- Hilang selera makan secara tiba-tiba
- Muntah/batuk berdarah
- Kesukaran menelan atau bernafas
- Sakit atau bengkak di leher atau kerongkong

喉咙，颈部，胸口
- 胸口疼痛
- 突然失去胃口
- 吐血/咳血
- 吞咽困难
- 咽喉疼痛和肿胀



https://www.kenhub.com/en/library/anatomy/the-musculoskeletal-system

Gastrointestinal / Abdomen
- Dark/black tarry stools
- Pain in the abdomen or lower back
- Vomit that appears like coffee ground (dark brown/black)

Gastrointestinal /Perut
- Najis hitam/gelap
- Sakit perut atau di bahagian belakang
- Muntah berwarna perang/coklat/hitam

胃肠道/腹部
- 粪便呈黑色
- 腹部或后背疼痛
- 咖啡样(黑/褐色)呕吐物

Kidney
- Blood in Urine

Buah Pinggang
- Kencing Berdarah

肾脏
- 尿道出血

Iliopsoas Muscle
- Feelings of “pins and needles” in the toes
- Trouble moving leg
- Excruciating pain over lower abdomen and/or lower back down to the leg

Otot Ilipsoas
- Mengalami rasa semut-semut atau kebas pada jari kaki
- Kesukaran menggerakkan kaki
- Kesakitan yang amat kuat di bahagian bawah perut dan/atau belakang sehingga ke kaki

髂腰肌
- 脚趾针刺痛感
- 难以伸直时或行动特别疼痛
- 下背/下腹极度疼痛至蔓延腿部

⚠ If experiencing any emergency warning signs above, target factor replacement at **80–100 %.** Immediately go to the hospital and contact haemophilia team. For blood in urine, do not infuse factor replacement. Drink plenty of water and go to the hospital.
Jika mengalami tanda-tanda amaran di atas, tahap sasaran penggantian faktor adalah **80–100 %.** Pergi ke hospital dengan segera dan hubungi staf hemofilia. Sekiranya kencing berdarah, jangan infusi faktor. Minum banyak air dan pergi ke hospital.
如果出现上述任何紧急警示症状，因子替代治疗的目标水平应为 **80%至 100%**。马上入院以及联络血友病医疗团队。如果出现尿血，请勿输注因子替代治疗。建议多喝水以及尽快就医。

MEDICATIONS
UBAT-UBATAN
药物

Always consult your doctor or pharmacist before taking any medications / supplements / herbal products
Sentiasa mendapatkan khidmat nasihat dari doktor atau ahli farmasi sebelum mengambil sebarang ubat / suplemen / produk herba
建议在服用任何药物/营养补给品/药草前先行咨询血友病中心的医护人

Vaccination should be given **subcutaneously**. Avoid intramuscular vaccination.
Pain relief: Paracetamol (eg: Panadol®, Uphamol®) tablets / syrup is safe
Adult dose: 1000mg every 4 – 6 hours (maximum 4000mg/day) and
Children (1 – 12 years old) dose: 15mg/kg every 4 – 6 hours (maximum 60mg/kg/day)

Vaksin perlu diberikan melalui suntikan **bawah kulit (subkutaneus)**. Elakkan pemberian vaksin secara suntikan intramuskular.
Rawatan melegakan kesakitan: Paracetamol (Panadol®, Uphamol®) tablet / sirap adalah selamat untuk diguna.
Dos untuk dewasa: 1000mg setiap 4 – 6 jam (maksimum 4000mg/hari) dan
Dos untuk kanak-kanak (umur 1 – 12 tahun): 15mg/kg setiap 4 – 6 jam (maksimum 60mg/kg/hari)

接种疫苗注射需通过**皮下注射**而避免肌肉注射。
缓解疼痛：可以使用乙醯胺酚（例如：普拿疼，发热蒲拿）药丸/药水,均为安全使用的药物。
成人剂量：每次剂量 1000mg，每 4 至 6 小时可重复服用一次（最高剂量：每 24 小时 4000mg）
儿童剂量（1-12 岁）：每次剂量以每公斤 15mg，每 4 至 6 小时可重复服用一次(最高剂量：每 24 小时每公斤 60mg）

Medications / herbs / supplements to **AVOID:**
Ubat / produk herba / suplemen yang perlu **DIELAKKAN:**
避免图下的药物/药草/补给品:

MEDICATIONS **UBAT-UBATAN** **药物** 	● Aspirin ● NSAIDS ▪ Diclofenac (eg: Voltaren®, Cataflam®) ▪ Ibuprofen (eg: Nurofen®, Brufen®) ▪ Mefenamic acid (eg: Ponstan®) ▪ Naproxen (eg: Synflex®) ▪ Indomethacin (eg: Indocin®) ● Topical rubs that contain NSAIDs or salicylate / salicylic acid	● Aspirin ● NSAIDS ▪ Diclofenac (eg: Voltaren®, Cataflam®) ▪ Ibuprofen (eg: Nurofen®, Brufen®) ▪ Mefenamic acid (eg: Ponstan®) ▪ Naproxen (eg: Synflex®) ▪ Indomethacin (eg: Indocin®) ● Salap yang mengandungi NSAIDs atau *salicylate* / asid salisilik	● 阿司匹林 ● 非甾体抗炎药 ▪ 双氯芬酸 ▪ 布洛芬 ▪ 甲芬那酸 ▪ 萘普生 ▪ 吲哚美辛 ● 含有非甾体抗炎药或水杨酸甲酯的外敷药膏
HERBS / SUPPLEMENTS × Avoid capsulated / tablet/ sachet/ commercial packs √ Safe if amount is from normal food intake / used in cooking **HERBA / SUPLEMEN** × Elakkan mengambil dalam bentuk kapsul/ tablet/ bungkusan/ sediaan komersil √ Selamat jika terkandung dalam makanan atau jika digunakan sebagai bahan masakan **药草/营养补给品** × 避免服用胶囊/药片状的 √ 如果从食物中提取或用于烹饪，是安全的	● Chamomile ● Danshen ● Dong Quai ● Evening primrose oil ● Fenugreek ● Garlic ● Ginger ● Ginkgo Biloba ● Ginseng / Panax ginseng ● Kava-kava ● Chondroitin ● Glucosamine ● Omega 3-essental fatty acid (avoid exceeding 3 servings of fish/ week) ● Papaya / Pineapple (avoid exceeding 4 slices/ week) ● Tumeric ● Vitamin E	● Chamomile ● Danshen ● Dong Quai ● Evening primrose oil ● Halba ● Bawang putih ● Halia ● Ginkgo Biloba ● Ginseng ● Kava-kava ● Chondroitin ● Glucosamine ● Omega 3 (elakkan melebihi 3 hidangan ikan seminggu) ● Betik / Nenas (elakkan melebihi 4 keping seminggu) ● Kunyit ● Vitamin E	● 洋甘菊 ● 党参 ● 当归 ● 月见草油 ● 葫芦巴/希腊草 ● 蒜头 ● 姜 ● 银杏 ● 人参 ● 卡瓦醉椒 ● 软骨素 ● 葡萄糖胺 ● n−3 脂肪酸（避免每周摄入超过三份量） ● 木瓜/黄梨（避免每周超过四片） ● 姜黄 ● 维生素 E
OTHERS **LAIN-LAIN** **其他** 	● Alcohol	● Alkohol	● 酒

HMTAC Bleeding Diary (Prophylaxis)
Diari Pendarahan HMTAC (Pencegahan)
血友病出血日记（预防治疗）

Date Tarikh 注射日期							
Infusion time Masa infusi 注射时间							
Factor replacement Penggantian faktor 凝血因子	**Strength Kekuatan 剂量**	☐ 250 iu	☐ 500iu	☐ 1000iu	☐ 250 iu	☐ 500iu	☐ 1000iu
	Vial used Vial digunakan 用量	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial
	Balance no of vials Baki vial 剩余	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial
Type (Brand name) Jenis (Jenama ubat) 品种(牌子)							
Batch no. & expiry No. Kelompok & tarikh luput 批号 & 截止日期							
Reason for infusion Tujuan infusi 治疗原因		☐ prophylaxis pencegahan 预防治疗 ☐ other lain-lain 其他:_____			☐ prophylaxis pencegahan 预防治疗 ☐ other lain-lain 其他:_____		
Date Tarikh 注射日期							
Infusion time Masa infusi 注射时间							
Factor replacement Penggantian faktor 凝血因子	**Strength Kekuatan 剂量**	☐ 250 iu	☐ 500iu	☐ 1000iu	☐ 250 iu	☐ 500iu	☐ 1000iu
	Vial used Vial digunakan 用量	_____vial	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial
	Balance no of vials Baki vial 剩余	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial
Type (Brand name) Jenis (Jenama ubat) 品种（牌子）							
Batch no & expiry No. Kelompok & tarikh luput 批号 & 截止日期							
Reason for infusion Tujuan infusi 治疗原因		☐ prophylaxis pencegahan 预防治疗 ☐ other lain-lain 其他:_____			☐ prophylaxis pencegahan 预防治疗 ☐ other lain-lain 其他:_____		
Date Tarikh 注射日期							
Infusion time Masa infusi 注射时间							
Factor replacement Penggantian faktor 凝血因子	**Strength Kekuatan 剂量**	☐ 250 iu	☐ 500iu	☐ 1000iu	☐ 250 iu	☐ 500iu	☐ 1000iu
	Vial used Vial digunakan 用量	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial
	Balance no of vials Baki vial 剩余	_____vial	_____vial	_____ vial	_____vial	_____vial	_____ vial
Type (Brand name) Jenis (Jenama ubat) 品种（牌子）							
Batch no & expiry No. Kelompok & tarikh luput 批号 & 截止日期							
Reason for infusion Tujuan infusi 治疗原因		☐ prophylaxis pencegahan 预防治疗 ☐ other lain-lain 其他:_____			☐ prophylaxis pencegahan 预防治疗 ☐ other lain-lain 其他:_____		
Adverse reaction Kesan sampingan 不良反应		Batch No. No. Kelompok 批号 :_____ Type of reaction Jenis reaksi 副作用反应 :_____					

HMTAC Bleeding Diary (On-Demand Therapy)
Diari Pendarahan HMTAC (Terapi Bila Perlu)
血友病出血日记（按需治疗）

Bleed **Pendarahan** 流血	**Date** **Tarikh** 日期						
	Time **Masa** 时间						
Factor replacement **Penggantian faktor** 凝血因子	**Date** **Tarikh** 日期						
	Time **Masa** 时间						
	Strength **Kekuatan** 剂量	☐ 250 iu	☐ 500 iu	☐ 1000 iu	☐ 250 iu	☐ 500 iu	☐ 1000 iu
	Vial used **Vial digunakan** 用量	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial
	Balance no of vials **Baki vial** 剩余	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial	_____ vial
Type (Brand name) **Jenis (Jenama ubat)** 品种 (牌子)							
Batch no & expiry **No. Kelompok & tarikh luput** 批号 & 截止日期							
Reason for infusion **Tujuan infusi** 治疗原因		☐ Spontaneous bleed Pendarahan spontan 自发性出血 ☐ Traumatic bleed Pendarahan trauma 创伤性出血			☐ Spontaneous bleed Pendarahan spontan 自发性出血 ☐ Traumatic bleed Pendarahan trauma 创伤性出血		
Site(s) of bleed **Tempat pendarahan** 出血部位							
Range of movement (ROM) **Julat pergerakan** 活动范围		☐ Full Penuh 满 ☐ Impaired Terjelas 受损的 (ROM_____%)			☐ Full Penuh 满 ☐ Impaired Terjelas 受损的 (ROM_____%)		
Pain score **Skor kesakitan** 疼痛指数	**Upon Bleed** **Semasa pendarahan** 出血时	0 1 2 3 4 5 6 7 8 9 10 			0 1 2 3 4 5 6 7 8 9 10 		
	At 8 hours from first infusion **Pada 8 jam selepas infusi pertama** 在首次输液后 8 小时	0 1 2 3 4 5 6 7 8 9 10 			0 1 2 3 4 5 6 7 8 9 10 		
Pain relief and/or improvement in signs of bleeding **Kelegaan dalam kesakitan dan/atau penambahbaikan pada tanda-tanda pendarahan** 疼痛缓解和/或出血迹象的改善情况	**At 8 hours from first infusion** **Pada 8 jam selepas infusi pertama** 在首次输液后 8 小时	☐ Complete Penuh 完全 ☐ Significant Ketara 显著 ☐ Modest Sederhana 适度 ☐ No or minimal Tiada atau sedikit 无 ☐ Not applicable Tidak berkenaan 不适用			☐ Complete Penuh 完全 ☐ Significant Ketara 显著 ☐ Modest Sederhana 适度 ☐ No or minimal Tiada atau sedikit 无 ☐ Not applicable Tidak berkenaan 不适用		
	At 72 hours from first infusion **Pada 72 jam selepas infusi pertama** 在首次输液后 72 小时	☐ Complete Penuh 完全 ☐ Incomplete Tiada lengkap 未完成 ☐ Not applicable Tidak berkenaan 不适用			☐ Complete Penuh 完全 ☐ Incomplete Tiada lengkap 未完成 ☐ Not applicable Tidak berkenaan 不适用		
P.R.I.C.E therapy **Rawatan P.R.I.C.E** P.R.I.C.E 处理原则		☐ **P**rotection Perlindungan 保护 ☐ **R**est Rehat 休息 ☐ **I**ce Ais 冰敷 ☐ **C**ompression Tekanan 施压 ☐ **E**levation Tinggikan kedudukan 抬高			☐ **P**rotection Perlindungan 保护 ☐ **R**est Rehat 休息 ☐ **I**ce Ais 冰敷 ☐ **C**ompression Tekanan 施压 ☐ **E**levation Tinggikan kedudukan 抬高		
Pain relief medication **Ubat tahan sakit** 止痛治疗		☐ No Tiada 无 ☐ Yes Ada 有: _____			☐ No Tiada 无 ☐ Yes Ada 有: _____		
Adverse reaction **Kesan sampingan** 不良反应		☐ No Tiada 无 ☐ Yes Ada 有: _____			☐ No Tiada 无 ☐ Yes Ada 有: _____		
Day(s) off work or school **Tidak hadir kerja atau sekolah** 缺席日		☐ None Tiada 无 ☐ None but not productive Tiada tetapi tidak produktif 无但是无效率 ☐ Yes Ada 有: _____days hari 日			☐ None Tiada 无 ☐ None but not productive Tiada tetapi tidak produktif 无但是无效率 ☐ Yes Ada 有: _____days hari 日		

Appendix 5

BLEEDING CALENDAR

O HMTAC attendance / Kehadiran HMTAC
□ Hospital admission / Kemasukan wad
P Prophylaxis / Pencegahan
√ Bleeding episode / Episod pendarahan
^ Factor replacement for breakthrough bleeding / Penggantian faktor semasa pendarahan

NAME :_____

MRN :_____

2026

REPLACE WITH CURRENT YEAR

JANUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

MARCH

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	
29	30	31				

APRIL

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

S	M	T	W	T	F	S
	1	2	3	4	5	
7	8	9	10	11		
14	15	16	17			
21	22					
28						

[illegible]

S	M	T	W	T	F	S
				1	2	3	4
	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

S	M	T	W	T		
		1	2	3	4	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Date	Bleeding site/ reason for hospitalization/ type of activity/ others

Appendix 6

FACTOR REPLACEMENT LOG

Patient's Name : ______________________________

MRN : ________________________________

ED = extra dose; R = required amount; B = balance amount; A = actual amount; Inf = infusions; Bal = balance

No	Date	Weight (kg)	PRESCRIPTION						DISPENSED			HMTAC TCA date	FOLLOW-UP						
			Type of infusion	Target (% or IU/kg)	Actual dose (IU)	Strength (IU) & quantity (vial)	Frequency per week + ED (target % ED)	Duration (weeks)	Brand & strength (IU)	Lot no. & expiry date	Amount to dispense (vial) [R – B = A]		Date	Factor Replacement Usage					
														No. inf.	Strength (IU)	Quantity		Physical stock on-hand	Stock tally/ remarks
																Used	Bal		
			☐ PRN ☐ Pro																☐ Yes ☐ No
			☐ PRN ☐ Pro																☐ Yes ☐ No
			☐ PRN ☐ Pro																☐ Yes ☐ No
			☐ PRN ☐ Pro																☐ Yes ☐ No
			☐ PRN ☐ Pro																☐ Yes ☐ No
			☐ PRN ☐ Pro																☐ Yes ☐ No
			☐ PRN ☐ Pro																☐ Yes ☐ No

Appendix 7

PHARMACIST ASSESSMENT FORM (FIRST VISIT)

VISIT NO: 1 **DATE:** _____

Referred from (facility): _____

PATIENT DEMOGRAPHICS

Name	:	**IC Number**	:
Age (years/months)	:	**MRN**	:
Race	:	**Tel. Number**	:
Weight (kg)	:	**Occupation**	:
Diagnosis	:	**Home Location**	:
Age Upon Diagnosis	:	**Work/School* Location**	:
		Travelling Time (Home to Work/School*)	:

FAMILY HISTORY OF HAEMOPHILIA

SOCIAL HISTORY

□ Education level: _____ □ Smoking □ Drug abuse □ Alcohol drinking □ Others_____

LAB VALUES / SCREENING

Baseline	Current (if applicable)
Date:	**Date:**
Factor Level : _____ % **Inhibitor Level** : _____ BU **HBV** : □ negative □ positive **HCV** : □ negative □ positive **HIV** : □ negative □ positive **Haemophilia Joint Health Score**: _____ (assessment by physiotherapist)	**Factor Level** : _____ % **Inhibitor Level** : _____ BU **HBV** : □ negative □ positive **HCV** : □ negative □ positive **HIV** : □ negative □ positive **Haemophilia Joint Health Score:** _____ (assessment by physiotherapist)

MEDICAL HISTORY

MEDICATION HISTORY

Drug Allergy: □ No Known Drug Allergy □ Yes, specify _____

Completed Vaccination (paediatric cases only): □ Yes (up to age) □ No, specify_____

Medication/Supplement: _____

FACTOR REPLACEMENT REGIMEN

□ Prophylaxis:_____

□ On-demand (PRN):_____

Number of factor exposure days (paediatric cases only): _____

BLEEDING HISTORY

Bleeding frequency in the past ONE YEAR : _____

Type of bleeding		Spontaneous	Traumatic
Site of bleed (state all location) & frequency			
Time from bleed to infusion of factors		Estimated average: _____ mins/hrs	Estimated average: _____ mins/hrs
Pain score	**Upon Bleed**		
	At 8 hours		
Pain relief or improvement in signs of bleeding	**At 8 hours**	□ Complete □ Significant □ Modest □ No or minimal □ Not applicable	□ Complete □ Significant □ Modest □ No or minimal □ Not applicable
	At 72 hours	□ Complete □ Incomplete □ Not applicable	□ Complete □ Incomplete □ Not applicable
Number of infusions required for a good response		Estimated average: _____	Estimated average: _____
Number of days off work/school		□ None □ Yes: _____days	□ None □ Yes: _____days

History of Serious Bleed : □ No □ Yes (State what and when): _____

History of Target Joints :
(Resolution of target joint: ≤ 2 bleeds within consecutive 12 months)

Deformities :

EVALUATION / ISSUES & PLAN / ACTION

No.	Issues	Description of current practice / issue	Action taken / counseling given
i.	**Adherence** • Timing, Dosing, Planning, Remembering, Skipping / Treatment, Communicating • Supply & usage discrepancies • Barriers to adherence		
ii.	**Storage / Stability**		
iii.	**Preparation, Administration & Disposal**		
iv.	• **Other Medications/ Herbs/ Supplements** • **Drug Interaction, Allergies, ADR**		
v.	**Target joint** **(i.e. ≥3 spontaneous bleeds in 6 months)**		
vi.	**Lifestyle** Physical activities / exercise regimen / physiotherapy sessions / others		
vii.	**Others**		

vii. Education topics provided : □ Visit 1 (Chapter 1-7)

viii. Suggestion for referral

No.	Issue	Department	Notes

ix. Pharmacotherapy Plan (also refer Patient's Factor Replacement Log)

Factor Replacement		Infusion Instructions				
		Target (%) or IU/kg*	Dose (IU)	Strength (IU)	Amount (vial)	Frequency
Prophylaxis						On days: _____
On-Demand (PRN)	Joint/ Muscle					When necessary (Repeat after ___ hrs if required)
	Head/ Throat/ GI/ Iliopsoas					Immediately & go to haemophilia centre

*Delete where necessary

NEXT APPOINTMENT

Doctor TCA Date :

Pharmacist TCA Date :

Issues to review :

COUNSELLED BY : (name & stamp)

Reference

1. World Federation of Hemophilia. (2020). *WFH guidelines for the management of hemophilia* (3rd ed.). World Federation of Hemophilia. https://www.wfh.org/en/professionals/guidelines/hemophilia-management

Appendix 8

PHARMACIST ASSESSMENT FORM (SUBSEQUENT VISIT)

VISIT NO: _____ **DATE:** _____

PATIENT DEMOGRAPHICS

Name	:	**IC Number**	:
Age (years/months)	:	**MRN**	:
Weight (kg)	:	**Diagnosis**	:
App user	: □ No □ Yes, specify_____		

SOCIAL HISTORY

□ Education level: _____ □ Smoking □ Drug abuse □ Alcohol drinking □ Others_____

LAB VALUES / SCREENING

Current
Date:
Factor Level : _____ % **Inhibitor Level** : _____ BU **HBV** : □ negative □ positive **HCV** : □ negative □ positive **HIV** : □ negative □ positive **Haemophilia Joint Health Score :** _____ (assessment by physiotherapist)

MEDICAL HISTORY

MEDICATION HISTORY

Drug Allergy : □ No Known Drug Allergy □ Yes, specify _____

Medication : _____

CURRENT FACTOR REPLACEMENT REGIMEN

□ Prophylaxis:_____

□ On-demand (PRN):_____

Number of factor exposure days (paediatric cases only): _____

EVALUATION / ISSUES(S)

i. Adherence to HMTAC

Did the patient attend HMTAC in person?	□ Yes	□ No (*who came on behalf?*_____)
Adherence to regimen (Timing, dosing, planning, remembering, skipping/treatment, communicating)	□ Yes	□ No (*specify:*_____)
P.R.I.C.E	□ Yes	□ No (*specify:*_____)
Good diary recording	□ Yes	□ No (*why?* _____)
Stock tally?	□ Yes	□ No (*why?* _____)
Standby stock at work / school	□ Yes	□ No (*specify* _____)

ii. Bleeding Pattern (If any)

Bleeding frequency since last visit (past ____ weeks/months) :_____

Bleed number					
Time from bleed to infusion of factors		____ mins	____ mins	____ mins	____ mins
Type of Bleed		□ Spontaneous □ Traumatic	□ Spontaneous □ Traumatic	□ Spontaneous □ Traumatic	□ Spontaneous □ Traumatic
Site of bleed					
Range of movement (ROM)		_____ %	_____ %	_____ %	_____ %
Pain score	**Upon Bleed**				
	At 8 hours				
Pain relief or improvement in signs of bleeding	**At 8 hours**	□ Complete □ Significant □ Modest □ No or minimal □ Not applicable	□ Complete □ Significant □ Modest □ No or minimal □ Not applicable	□ Complete □ Significant □ Modest □ No or minimal □ Not applicable	□ Complete □ Significant □ Modest □ No or minimal □ Not applicable
	At 72 hours	□ Complete □ Incomplete □ Not applicable	□ Complete □ Incomplete □ Not applicable	□ Complete □ Incomplete □ Not applicable	□ Complete □ Incomplete □ Not applicable
P.R.I.C.E		□ No (_____) □ Yes	□ No (_____) □ Yes	□ No (_____) □ Yes	□ No (_____) □ Yes
Pain relief medication		□ No □ Yes (_____)	□ No □ Yes (_____)	□ No □ Yes (_____)	□ No □ Yes (_____)
Adverse reaction		□ No □ Yes (_____)	□ No □ Yes (_____)	□ No □ Yes (_____)	□ No □ Yes (_____)
Productivity		_____ %	_____ %	_____ %	_____ %
Medical leave		_____ days	____days	____days	____days

iii. Target joint (i.e. ≥3 spontaneous bleeds in 6 consecutive months)[3]

□ Elbow □ Knee □ Ankle □ Others, specify _____

iv. Lifestyle

Physical activities/ exercise regimen / physiotherapy sessions / others :

v. Medic alert
□ Yes □ No _____

vi. Others
Other queries / issues (e.g. storage, preparation, administration, disposal)
_____
_____

PLAN / ACTION(S)

i. Education / knowledge
□ None □ Visit 2 □ Visit 3 □ Visit 4 □ Revision [topic(s) : _____]
□ Counselling for :

ii. Non-pharmacotherapy intervention
(Example: contingency plan for school:- relay of information from patient to teacher to family / factor storage at school / contingency plan when traveling)

iii. Laboratory screening (due date):

iv. Suggestion for referral (if any):

No.	Issue	Department	Notes

v. Medication (adjunct treatment / others) :
(Eg. COX-2 Inhibitors, Anti-fibrinolytic)

vi. Regimen adjustment (if any) :

vii. Pharmacotherapy plan (refer to patient's factor replacement log)

Factor Replacement		Infusion Instructions				
		Target (%) or IU/kg*	Dose (IU)	Strength (IU)	Amount (vial)	Frequency
Prophylaxis						On days: _____
On-Demand (PRN)	Joint/ Muscle					When necessary (Repeat after ___ hrs if required)
	Head/ Throat/ GI/ Iliopsoas					Immediately & go to haemophilia centre

*Delete where necessary

NEXT APPOINTMENT

Doctor TCA Date :

Pharmacist TCA Date :

Issues to review :

COUNSELLED BY : (name & stamp)

Reference

1. World Federation of Hemophilia. (2020). *WFH guidelines for the management of hemophilia* (3rd ed.). World Federation of Hemophilia. https://www.wfh.org/en/professionals/guidelines/hemophilia-management

HAEMOPHILIA MEDICATION THERAPY ADHERENCE CLINIC (HMTAC) PROTOCOL

Pharmaceutical Services Programme
Ministry of Health Malaysia
Lot 36, Jalan Profesor Diraja Ungku Aziz,
46200 Petaling Jaya,
Selangor.
Tel: +603-7841 3200
www.pharmacy.gov.my

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