

PAIN MEDICATION THERAPY MANAGEMENT SERVICES: GUIDELINE FOR PHARMACY



Pharmaceutical Services Programme

Ministry of Health Malaysia

[Second Edition 2018]

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Second Edition, 2018
Pharmaceutical Services Programme
Ministry of Health, Malaysia

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CHAPTER 1:

INTRODUCTION

1.1. Overview of pain

Pain is defined by International Association for the Study of Pain (IASP) as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”. Pain is subjective and patient’s self-reporting is essential for appropriate management. Under-treatment of pain is a substandard medical practice and could lead to negative impact on social aspects including depression and loss of job.^{1,2} A basic approach to pain management should include the ability to RECOGNISE pain, ASSESS the type of pain and to provide appropriate TREATMENT.³ Treatment approaches to pain include pharmacological and non-pharmacological approaches including interventional procedures, physical therapy and psychological measures.

The World Health Organization (WHO) has estimated that approximately 80 percent of the world population has either insufficient or no access to treatment for moderate to severe pain. Every year, ten millions of people around the world suffer from such pain without treatment. Despite the medications to treat pain being cheap, safe, effective and generally straightforward to administer, there are many reasons that discourage adequate pain management including cultural, medical and religious impediments as well as entrenched political and legal barriers.⁴

In year 2001, the Joint Commission Accreditation Standards for Health Care Organization had adopted pain management standards stating that every patient has a right to have pain assessed and treated.⁵ A multidisciplinary healthcare team will be the best approach to achieve optimum outcome in pain management. A retrospective review at Saint John’s Health Centre, California from August 2006 to July 2007 showed that Pain Management Pharmacist’s discharge facilitation had saved cost approximately \$97,200 for the 12-month period.⁵

In terms of pain medication safety, National Pharmaceutical Regulatory Agency (NPRA), Malaysia had stated 1,575 Adverse Drug Reaction (ADR) cases were reported in year 2017 involving 14 types of NSAIDs (Nonsteroidal Anti-inflammatory Drugs). Skin and subcutaneous disorders were the major occurring reaction (48%), followed by eye disorders (29%), respiratory, thoracic and mediastinal disorders (10%), systemic and local administration site reactions (7%), and gastrointestinal disorders (6%).

Therefore, it is crucial for pharmacist to identify and monitor ADR caused by pain medications to ensure patient safety. Pharmacist has an essential role to safeguard cost effectiveness and safety of pain medications.

1.2. Pain Free Program in Ministry of Health Malaysia: Pain as the 5th Vital Sign (P5VS) and Pain Free Hospital (PFH)

With the concern of under management of pain, the idea of evaluating pain as a vital sign was adopted and implemented as a nationwide policy in year 2008. The Ministry of Health (MOH) Malaysia, through a circular from the Director General of Health has recognised Pain as the 5th Vital Sign (P5VS) as a strategy to improve pain management in MOH hospitals. It is currently one of the requirements for accreditation as a Pain Free Hospital (PFH)/ Health Clinic.³

Pain Free Hospital (PFH) is a concept adopted in order to improve pain management in hospital using a multidisciplinary team approach and incorporating various methods for the relief of pain. The initiative was launched by the former Minister of Health, Datuk Seri Liow Tiong Lai on 5th of December 2011 whereby the minister had introduced '*pain-free*' services in three government hospitals in a pilot project, namely Hospital Putrajaya, Hospital Selayang and Hospital Raja Permaisuri Bainun, Ipoh. Consequently, many hospitals have joined the initiatives leading to the establishment of the National PFH Committee in 2013 consisting of healthcare professionals from various disciplines.^{4, 6}

The objectives of PFH are pain free surgery, pain free labour, pain free procedures, pain free rehabilitation and pain free discharge. The main components of PFH are rational use of anaesthesia and analgesia, minimally invasive surgery (MIS) and day care surgery (DCS) as well as the incorporation of non-pharmacological techniques including traditional and complementary medicines (Figure 1).⁴



Figure 1: The main components of PFH.⁴

1.3. Pain Management in Palliative Care

Palliative care includes the care of any patient with advanced, life-limiting disease with the goal of achieving the best quality of life possible for these patients and their families. It provides relief from pain and other distressing symptoms. Pain management in palliative care is applicable not only at the end of life, but also early in the course of illness, and in conjunction with other therapies that are intended to prolong life. Patients with advanced, incurable disease often have multiple symptoms⁷, of which pain is frequent, significant and debilitating. Medication therapy is often a cornerstone of symptom control in palliative care and an important part of this is pain therapy management.

Pain management in palliative care is challenging due to patient related barriers such as misconceptions about pain and treatment⁸, reluctance to report pain as a symptom, difficulty in assessing pain and dependence on caregivers' reporting; as well as the complexity of symptoms experienced by the patient. Additionally, there are also many healthcare related barriers such as staff's inadequate knowledge and misconceptions about pain as well as barriers to access medications and continuity of care. Therefore, specific palliative care guidelines should be referred for optimal pain management in this population.

1.4. Classification of Pain

Pain is generally classified based on pathophysiological, aetiological, anatomical and duration of pain.

Pathophysiological classification of pain can be further divided into²:

i. Nociceptive

Nociceptive pain consists of somatic and visceral pain; it arises when tissue injury activates nociceptors, which are sensitive to noxious stimuli such as heat, cold, vibration, stretch stimulation, tissue disruption and inflammation

ii. Neuropathic

Neuropathic pain is caused by structural damage and nerve cell dysfunction in the nervous system. In addition, nerve compression or persistent abnormal pain signals may also lead to neuropathic pain.

Pain can also be classified based on duration of pain: acute or chronic and cancer or non-cancer. For pain etiology, please refer to Table 1.

Table 1: Classification of acute and chronic pain.⁸

	Acute Pain	Chronic Pain
General	A symptom of underlying damage or disease. No central nervous system involvement.	A chronic disease of nervous system. Central nervous system may be dysfunctional.
Onset	Begins suddenly, usually due to an injury.	Might have originated with an initial trauma/injury or infection, or there might be an ongoing cause of pain. However, onset may be insidious and many people may suffer from chronic pain in the absence of any past injury or evidence of body damage.
Duration	Less than 3 months, resolves when the injury heals and/or when the underlying cause of pain has been treated.	Usually more than 3 months. Chronic pain persists despite the fact that the injury has healed.
Characteristics of Pain	Severity correlates with amount of damage.	Severity will not correlate with the amount of damage. The nature of the disease is that the pain level in patients may be worse on some days and better on others termed as 'bad days' and 'good days'.
Psychological Effects	Less but unrelieved pain can cause anxiety and sleep deprivation (which improve after pain is relieved).	Often may cause depression/ anxiety, anger, fear, sleep disturbances and social withdrawal.
Presence of Signal	Acute pain serves as a warning sign of damage such as injury, disease or threat to the body.	Chronic pain does not signal damage.
Common Causes	Surgery, fracture, burns or cuts, labour and childbirth, myocardial infarction and inflammation such as abscess and appendicitis.	Headache, low back pain, cancer pain, arthritis pain, chronic pancreatitis, chronic abdominal pain from 'adhesion colic'. Neuropathic pain such as post herpetic neuralgia, diabetic peripheral neuropathy, post spinal cord injury pain and central post-stroke pain.

1.5. Pain assessment tools

Pain assessment tools are very important to evaluate efficacy of pain regimen before and after treatment. The severity of pain will be assessed using pain assessment tools by giving pain score. This pain score is individualised and need to consider minimum, maximum and average score to evaluate the pain intensity.

There are three types of pain assessment tools ⁹:

1. The Numeric Rating Scale (NRS) Ministry of Health Malaysia pain scale which is used in children more than > 7 years old and above (Figure 2)



Figure 2: NRS MOH Scale

2. Visual Analog Scale (VAS) Ministry of Health Malaysia pain scale which is used in children age > 3 to 7 years (Figure 3)

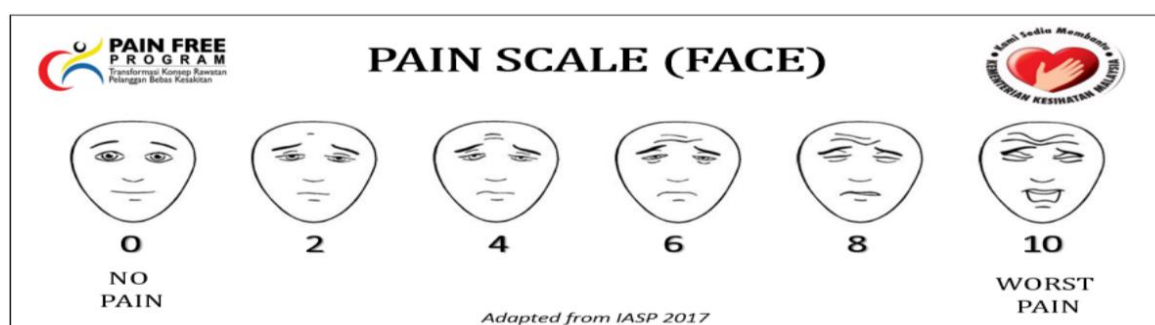


Figure 3: VRS MOH Scale

3. FLACC scale is applicable for children age 1 to 3 years old and adult patient unable to communicate verbally (Figure 4)

CATEGORIES	SCORING		
	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant quivering chin, clenched jaw
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid or jerking
Cry	No cry (awake or asleep)	Moans or whimpers; occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging or being talked to, distractable	Difficult to console

Each of the five categories (F) face, (L) legs, (A) activity, (C) cry and (C) consolability is scored from 0-2, resulting in total range of 0-10

Figure 4: FLACC Scale

CHAPTER 2:

ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

The roles of pharmacists in Pain Medication Therapy Management (MTM) Services must be in line with the standards of pharmacy services and in accordance with the Joint International Pharmaceutical Federation (FIP) and World Health Organization (WHO) guidelines on Good Pharmacy Practice. It is recommended that any facility offering Pain MTM Services should consider these general roles and activities for pharmacists with regards to medications used in pain management. Meanwhile, specific roles and procedures will be explained in detail under individual topics on Pain MTM Services.

2.1. Procurement, Storage, Secure, Distribution & Dispensing Of Medications Used In Pain Management.²

2.1.1. To procure, store and secure medicinal preparations and products.

- a. To ensure that the procurement process is transparent, professional and ethical to promote equity and access, and to ensure accountability to relevant governing and legal entities.
- b. To ensure sufficient stock availability and to establish contingency plans during shortages of medicines and for purchases in emergencies.
- c. To ensure all medicines used in healthcare facility are stored in proper conditions especially controlled substances.

2.1.2. To distribute medicinal preparations and products.

To ensure that all medicinal products are handled and distributed in a manner that assures reliability and safety of the medicine supplied by establishing an effective distribution system.

2.1.3. To prepare & dispense medicinal products.

- a. To screen all prescriptions received, considering the therapeutic, social, economic and legal aspects of the prescribed indication(s), before supplying medicinal products to the patients.
- b. To ensure that compounded medicines are prepared to comply with written formula and quality standards for raw materials, equipment and preparation processes, including sterility where appropriate.

- c. To provide written and verbal information to patients to optimise benefits of treatment.
- d. To ensure that patients receive adequate supply of medicines.

2.1.4. Procurement, storage and dispensing of Dangerous Drug/ Psychotropic Substances must comply with relevant laws and regulations. Dispensing of Psychotropic medicines can be done by licensed pharmacist or pharmacy assistant or in their absence medical assistant, employed in any hospital, clinic or institution wholly maintained by the government¹⁰.

2.1.5. Medicine requiring special approval

a. These medicines are:

- Medicines which are listed in MOH Formulary but NOT registered in Malaysia
- Medicines which the indication is NOT listed in MOH Formulary
- Medicines which are not listed in MOH Formulary

b. These medicines require Director General of MOH or Senior Director of Pharmaceutical Services Programme approval and patient consent form must be filled up upon prescribing. Relevant form of the request should be submitted to Pharmaceutical Services Programme, MOH to be processed [refer to *Garis Panduan Permohonan Memperolehi dan Menggunakan Ubat-ubatan yang Memerlukan Kelulusan Khas Ketua Pengarah Kesihatan (KPK) / Pengarah Kanan Perkhidmatan Farmasi (PKPF)*. Accessible at www.pharmacy.gov.my; *garispanduan: Borang BPF/103-KPK01 (Pindaan 4.0) and Borang BPF/103-KPK01S*].

2.2. Provision Of Pain MTM Services By

- 2.2.1. Assessing patients' health status and medication history
- 2.2.2. Managing patients' medication therapy by reviewing patients' medication through performing assessment, identification and prioritization of pharmaceutical care issues
- 2.2.3. Establishing pharmaceutical care plan to address identified PCI and intervene the PCI after discussing with clinician
- 2.2.4. Monitoring patients' progress, outcomes of treatment and medication safety issues
- 2.2.5. Providing information about medicines and other health related issues

Details of this service will explained in chapter 3.

2.3. Maintenance of Professional Competence And Improvement of Performance

- 2.3.1. To plan and implement continuous professional development strategies to improve current and future performance.
- 2.3.2. To undergo the necessary training in pain management to update their knowledge and skills in management of pain.
- 2.3.3. To enhance their knowledge and skills about complementary and alternative therapies used in pain management such as traditional medicines, health supplements, acupuncture, homeopathy and naturopathy.

CHAPTER 3:

PAIN MEDICATION THERAPY MANAGEMENT SERVICES PROVIDED BY PHARMACY

Pharmacy department in MOH facilities that implement P5VS can provide specialised and general Pain MTM Service as below (Figure 5):

- I. Ambulatory setting
 - a. Pain Medication Therapy Management Clinic (Pain MTM Clinic)
 - b. Pre – Anaesthetic Medication Therapy Management Clinic
 - c. Medication Counselling (Pain)
- II. Inpatient setting
 - a. Acute Pain Service/ Multidisciplinary Pain Team Round
 - b. Medication Counselling (Pain)

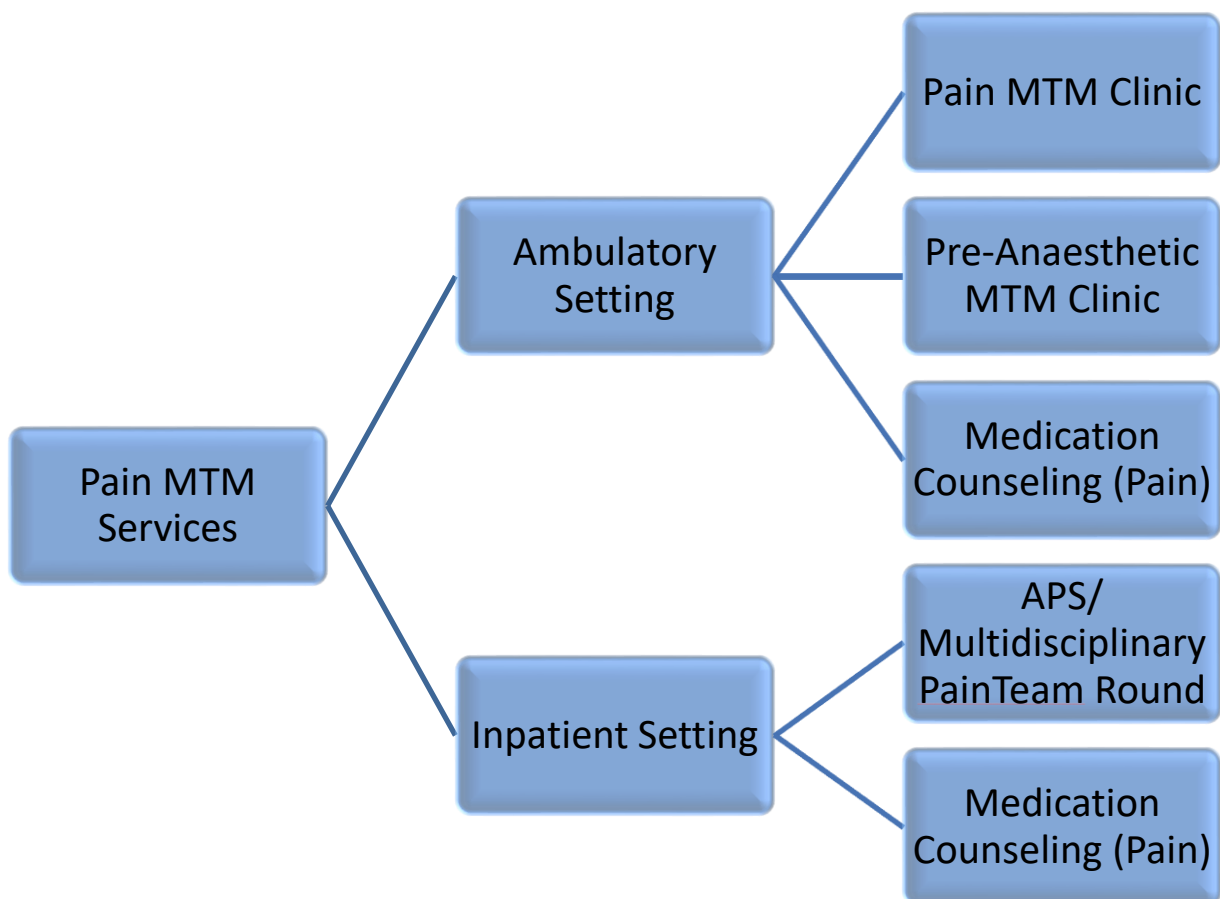


Figure 5: Pain MTM Services in ambulatory and inpatients settings.

3.1. OBJECTIVES OF PAIN MTM SERVICES

- 3.1.1. To optimise pain therapy (to control/reduce pain) by recommending an individualised pain regimen.
- 3.1.2. To minimise adverse events and medication errors by reviewing patients' past and current medications.
- 3.1.3. To counsel patients on appropriate use of pain medications and to increase patients' understanding on their medications.
- 3.1.4. To collaborate and to provide information to healthcare providers on pain medications.

3.2. AMBULATORY SERVICES

In ambulatory setting, two specialised pain services can be offered namely Pain MTM Clinic and Pre-Anaesthetic MTM Clinic. While, general Pain MTM Service which is Medication Counselling (Pain) can be given to patient upon collecting their pain medication at ambulatory pharmacy (hospital)/ outpatient pharmacy (health clinic).

3.2.1. Pain Medication Therapy Management Clinic

Pain MTM Clinic is conducted by pharmacists in collaboration with other healthcare providers. Pharmacist will educate and guide patients in managing and controlling their pain through pharmacotherapy approach.

Patient assessment and treatment should involve a multidisciplinary team, to ensure optimal management of all aspects of pain. The goals of treatment are to improve and/or manage pain; and improve patients' physical, psychological, work and social role functioning.

A. Scope of Service

Patients recruited in this clinic are patients who are referred by pain specialist/ Family Medicine Specialist (FMS) or selected by pharmacist at the clinic.

B. Location of service

The service shall operate in the Pain Clinic area during the clinic day. However, this is not a mandatory requirement and depends on the local facility set up.

C. Manpower Requirement

At least one trained pharmacist shall be on duty during clinic operating hours.

D. Appointment

1. Initial Visit:

Appointments are given based on the doctor's appointments (usually within 2 weeks to 2 months intervals). Initial assessment will be done during patients' initial visit and documented in Pain Medication Therapy Management Pharmacist Assessment Form ([Appendix I](#)).

2. Subsequent Visits:

After the initial assessment, patient follow-up will be done during subsequent visits (minimum of 2 visits) on clinic days. Number of follow-ups conducted by pharmacist will be based on patient's need and condition. Pain evaluation and medication review will be conducted and documented in Pain Evaluation & Medication Review List Form ([Appendix II](#)).

3. Missed Visits:

Defaulted patient will be contacted for follow-up session via telephone interview.

E. Patient Selection

Patients shall be selected based on any of the criteria below:

- a. Patients who are newly started on analgesics and adjuvants (first time seen by pain specialist).
- b. Patients whose therapeutic goals have not been achieved with current pain medication regimen.
- c. Patient with chronic pain requiring long-term use of pain medication and regular monitoring.

- d. Patients who are referred to Pain MTM Clinic with specific criteria as below will be included:
 - i. Changes in pain medication regimen.
 - ii. Experiencing side effects or complications due to their pain medications.
 - iii. On strong opioids therapy.
 - iv. Poor understanding on pain medication regimen.

F. Initial Assessment

Initial assessment consists of the following:

- a. History of underlying co-morbidities.
- b. Pain history and assessment
 - i. Identify location of pain and mark the pain site(s) on the body chart.
 - ii. Identify pain aggravating and relieving factors.
 - iii. Evaluate pain intensity using the pain assessment tools.
- c. Past medication history
 - i. Any previous analgesics and adjuvants given and their efficacy.
 - ii. Any over the counter medications.
 - iii. Any traditional or complementary medications.
 - iv. Prescribed medications for chronic illness.
- d. Patients' allergy status
- e. Relevant laboratory values (if applicable).
- f. Medication review (specific to pain regimen)
 - i. Review current pain regimen started by the pain clinician.
 - ii. Communicate with the clinician if any interventions required.

All this information will be documented in the Pain Medication Therapy Management: Pharmacy Assessment Form ([Appendix I](#)).

G. Medication education and counselling

A thorough explanation on the individualised pain regimen will be conducted by the pharmacist (refer [Appendix III](#), [Appendix IV](#) & [Appendix V](#)).

Pharmacists are responsible to elaborate and reinforce on these details:

- a. Treatment goals and medication adherence.
- b. Name of medication.
- c. Indication, dosage, frequency and duration of each medication.
- d. Common side effects / adverse drug reactions related to each medication and how to manage them.
- e. Proper storage of the medications.
- f. Precautions and contraindications.
- g. The importance of around the clock vs. when necessary dosage administration timing.
- h. Action to be taken for a missed dose or when pain is not controlled.

Follow up counselling can be planned during scheduled appointments.

H. Pharmaceutical review

Pharmaceutical care issues (PCI)

- a. Pharmacists should identify any PCI at the earliest opportunity for every patient.
- b. Pharmacists should carefully assess the patient and obtain all information required to ascertain if any intervention or recommendation is needed.
- c. Drug related issues:
 - i. Identify available therapeutic alternatives; and weigh the risks and benefits of each alternatives to achieve best therapy outcome.
 - ii. Formulate an agreed individualised action plan with the patient and other healthcare providers including identification of specific pain therapy goals and other means (drug or non-drug) to achieve them.
 - iii. Address safety concerns regarding opioid use (Refer [Appendix VIII](#)).
 - iv. Emphasise on the non-pharmacological therapy options that may help in managing pain and drug related problems.
 - v. Take a holistic approach to patient care (i.e., consider the patient's medical, social, and financial needs) in establishing action plans.

I. Pharmacist's recommendations

- a. Recommendation should be done based on:
 - i. Pain score, pain aggravation and relieving factors
 - ii. Achievement of desired outcome including patients' quality of life.
 - iii. Drugs related problems such as side effect, sub-therapeutic, interaction with others drugs and food etc.
 - iv. Availability of pain medicine and related policy at facility.
- b. Pharmacists should actively collaborate with other healthcare providers to form an individualised pain care plan as a whole including non-pharmacological approach.
- c. All interventions should be discussed with the clinician for further action to achieve the desired outcome.

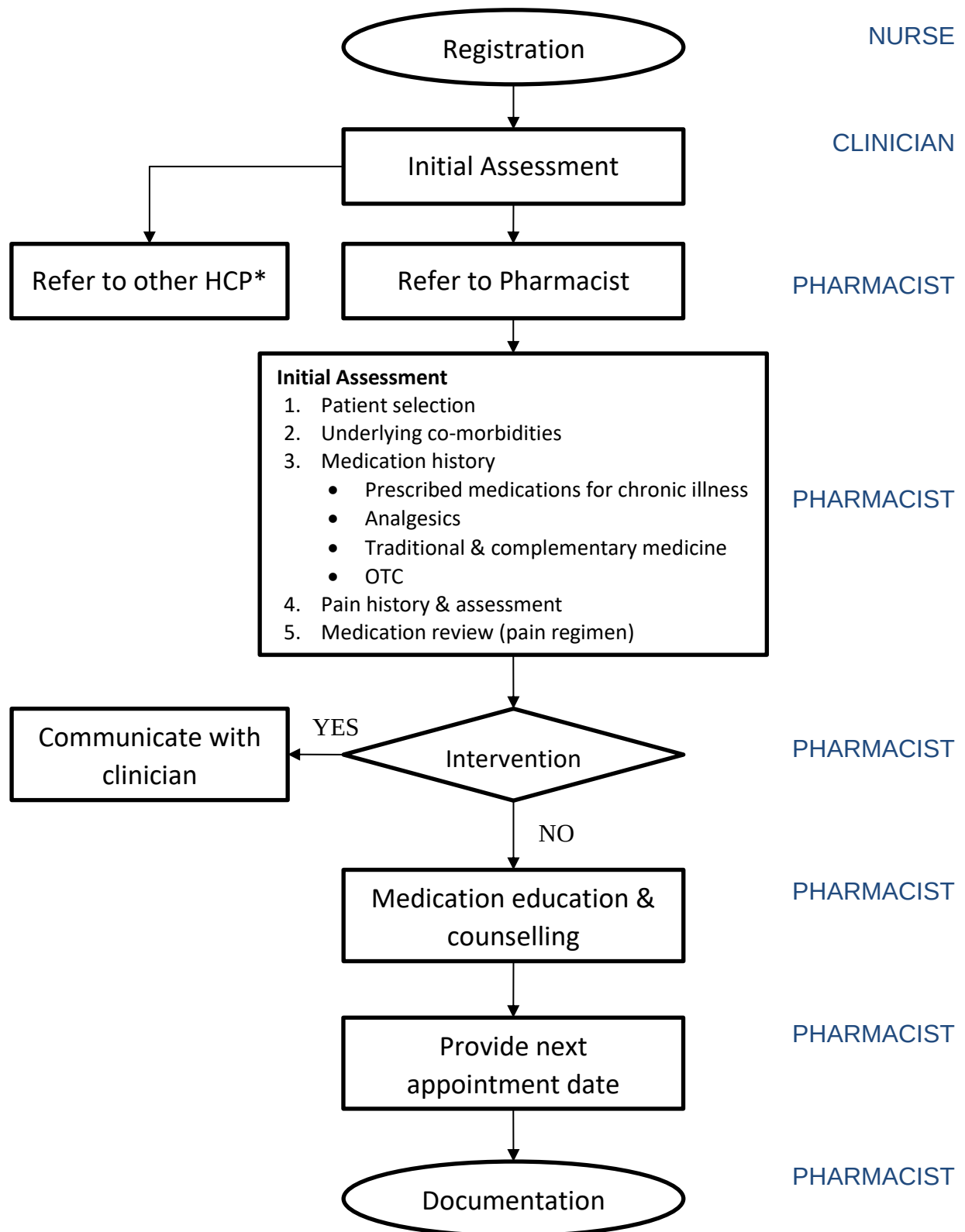
J. Discharge criteria

Pharmacists can discharge patients who fulfil any one of these criteria from Pain MTM Clinic:

- a. Patients who are discharged from pain clinic or transferred to other facility.
- b. Patients who are able to wean off from pain medication and may continue with non- pharmacological therapy only.
- c. Patients whose treatment goal have been achieved and no further PCI identified to be followed up at subsequent visits.
- d. Patients who request to be discharged from the service (prescriber shall be informed and documented).
- e. Patients who have defaulted follow up for 1 year.

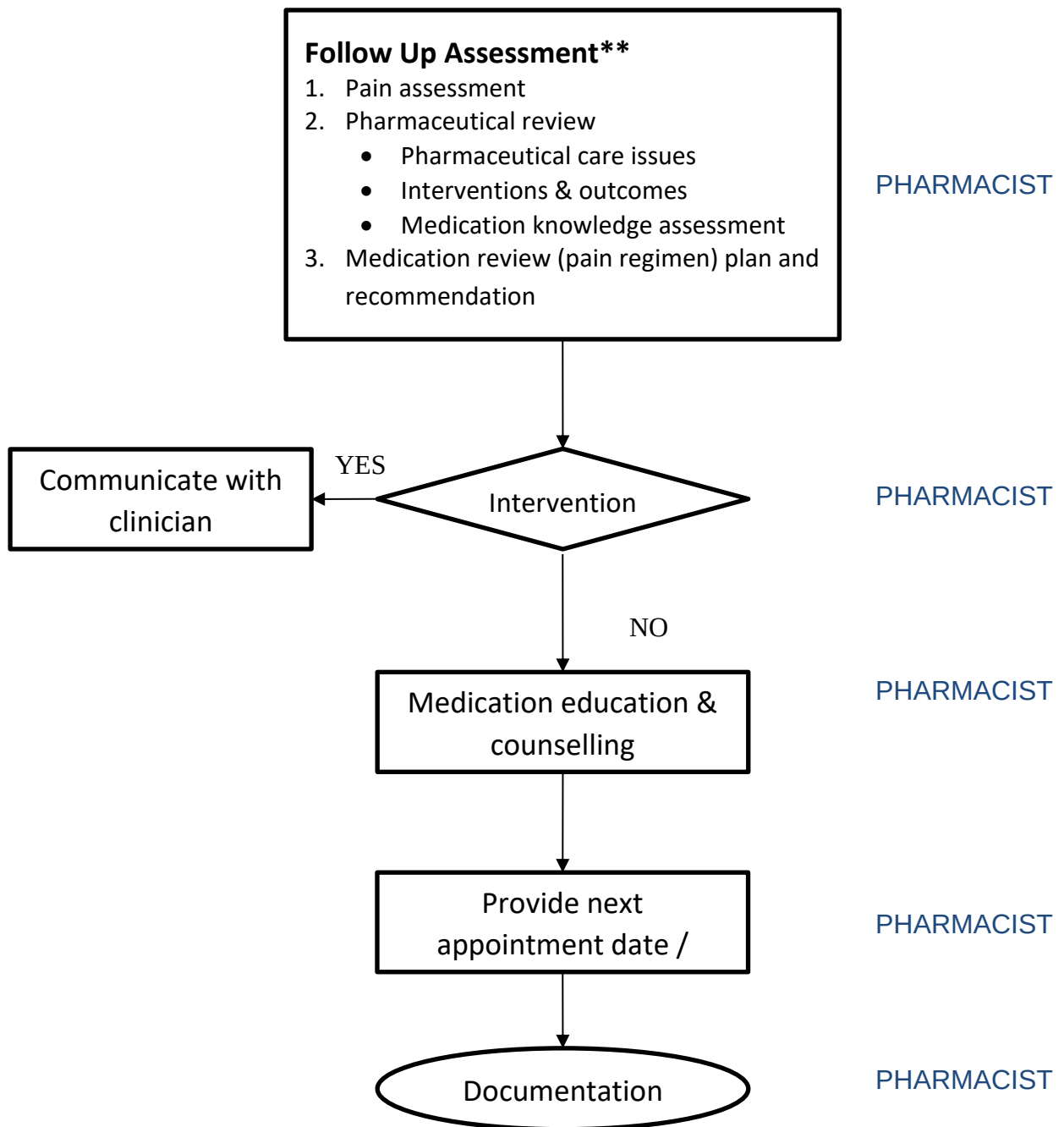
Pain MTM Clinic Workflow

A. Initial Visit



* HCP – healthcare provider

B. Subsequent Visits



3.2.1. Pre-Anaesthetic Medication Therapy Management Clinic

Anaesthetic clinic is an outpatient clinic that carries out pre-operative assessment of patients scheduled for elective surgery, day care surgery and day of surgery admission (DSA). It serves to prepare and educate patient about expectation of pain following surgery, identify associated medical illness and anaesthetic risks. Some patients may need admission to ward for post-surgery close monitoring.

Pharmacist plays an important role in reviewing patients' current medication and providing education on post-operation pain regimen.

A. Scope of Service

Pharmacist will conduct medication history taking and medication review, patient counselling and education about the use of medicines prior to surgery.

B. Location of Service

The service will be provided at the clinic during anaesthetic clinic day. However, this is not a mandatory requirement and depends on the local facility set up.

C. Manpower Requirement

At least one trained pharmacist needed to provide this service in the Pre-Anaesthetic Clinic.

D. Procedures

a. Patient selection:

Patients who are referred to pharmacist for medication assessment.

b. Assessment by the pharmacist including history of underlying co-morbidities and related medications.

c. Assessment on Medication history conducted using CP1 Form ([Appendix VI](#)).

i. Any previous analgesics given and their effectiveness.

ii. Any traditional or complementary medications.

iii. Any over the counter (OTC) products.

d. Patients' allergy status

e. Relevant laboratory values (if applicable).

f. Medication review:

i. Medication to be withheld prior to surgical procedure.

- ii. Communicate with the clinician if any intervention is required.

g. Patients counselling:

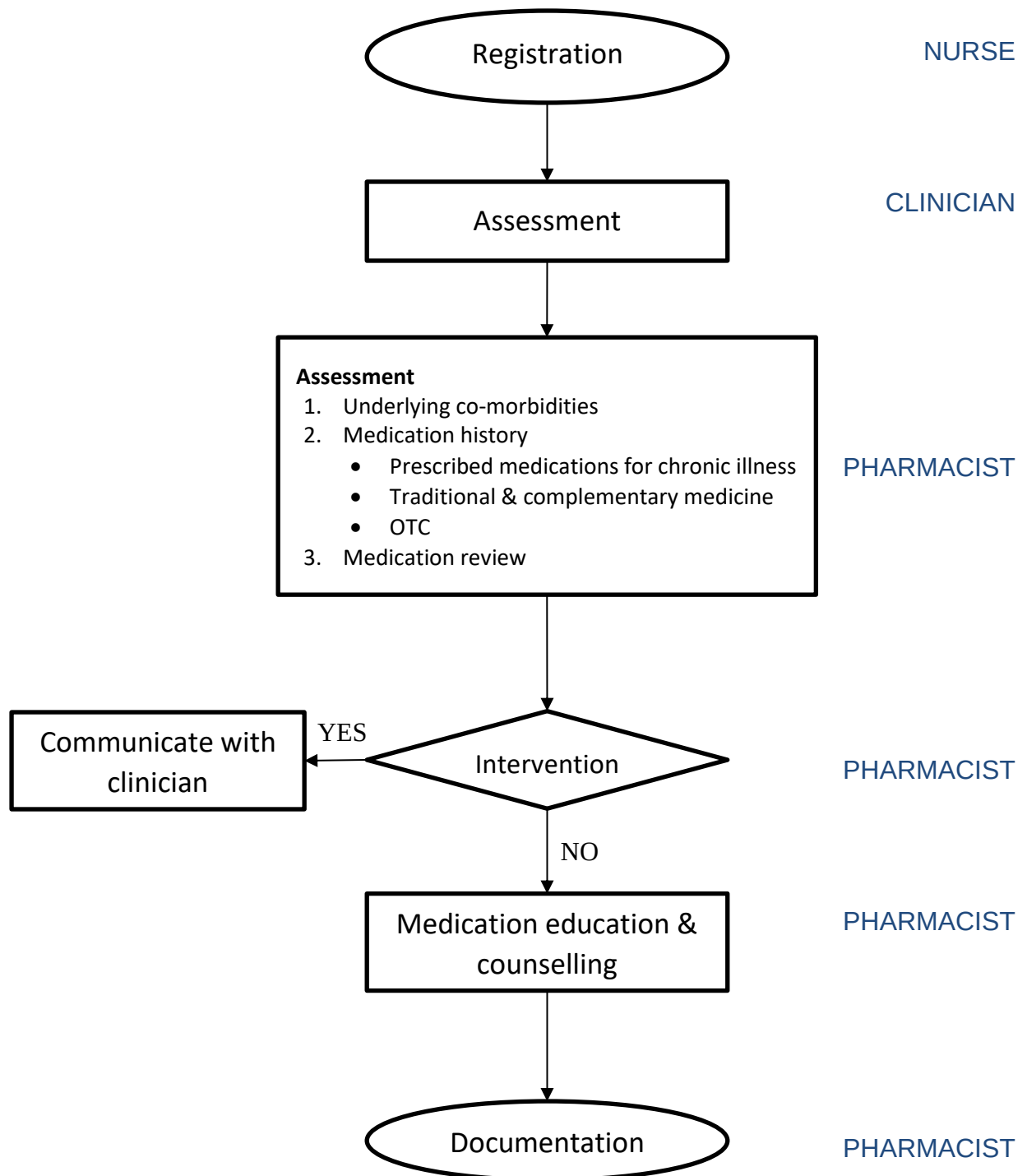
Pre-anaesthetic counselling will be given to patient in detail on:

- i. Treatment goals of pain medication regimen.
- ii. Name of pain medication will be initiated after surgery.
- iii. Indication, dosage, frequency and duration of each medication.
- iv. Self-adjustment of pain medication regimen by patient.
- v. Common side effects of each medication and how to manage them.
- vi. Precautions and contraindications.
- vii. Emphasise on the importance of around the clock vs. when necessary dosage administration timing.
- viii. Action to be taken for a missed dose, or when pain is not controlled.

Patient will also be educated on the pain assessment tools to enable assessment of their pain status.

All information of pre-anaesthetic counselling should be documented in the Pre-Anaesthetic Counselling (Patient's Copy): Medication Instruction for Patient Form ([Appendix VII](#)).

Pre-Anaesthetic MTM Clinic Workflow



3.3. INPATIENTS SERVICE: ACUTE PAIN SERVICE (APS)/ MULTIDISCIPLINARY PAIN TEAM ROUND

For inpatient pain service, pharmacist needs to review patients' medication during Acute Pain Service (APS) or Multidisciplinary Pain Team Round. All activities and documentation of this service shall be referred to Ward Pharmacy activities. Inpatient Medication Counselling (Pain) can be done by any pharmacist during bedside or discharge counselling.

A. Scope of Service

- a. The service shall be provided to patients who will be reviewed during APS/ Multidisciplinary Pain Team Round on working days.
- b. Pharmacist activities during APS /Multidisciplinary Pain Team Round should be structured according to the suggested workflow as in this guideline.

B. Manpower Requirement

At least one pharmacist (preferably Pain MTM pharmacist).

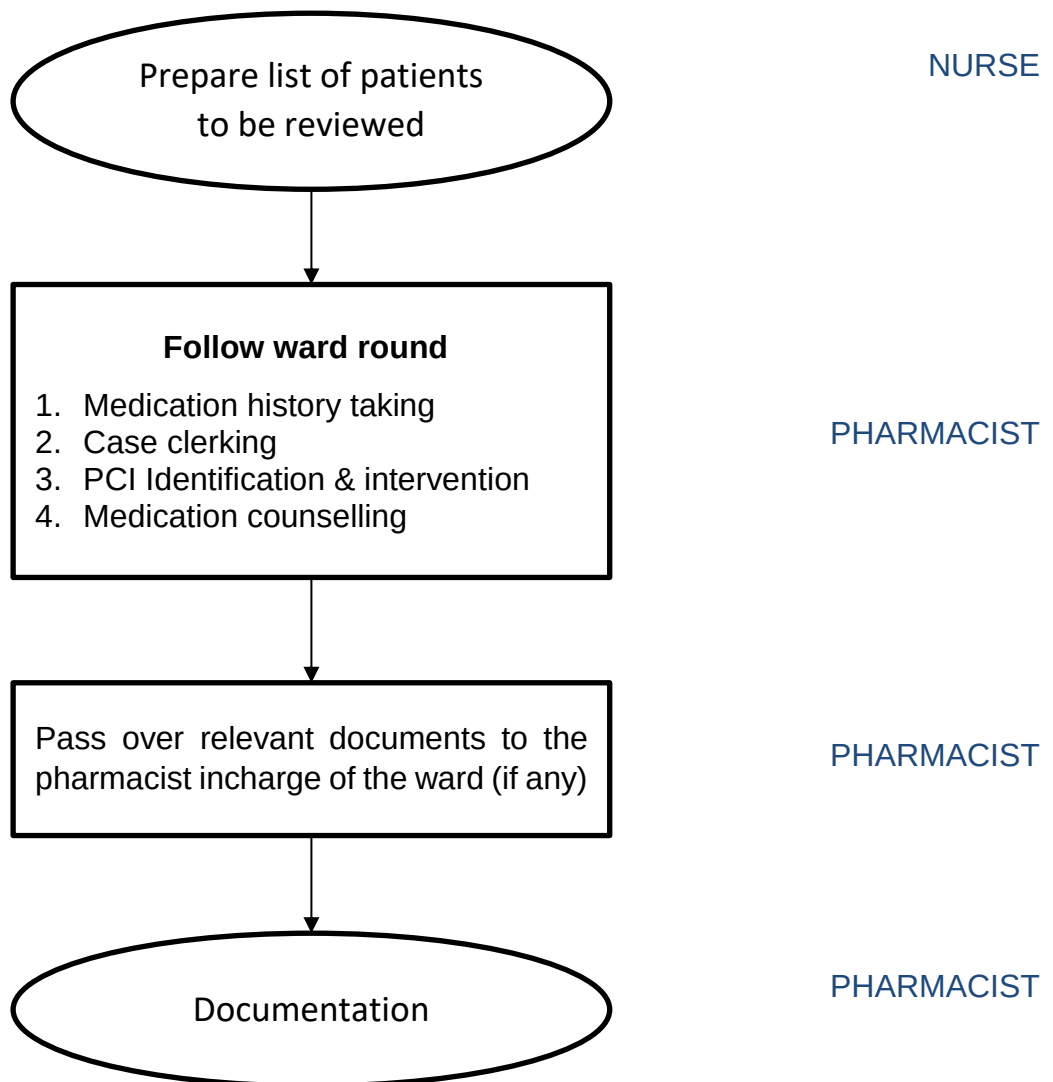
C. Procedures

The following activities will be done during ward round:

- a. Medication history taking by using CP1 Form ([Appendix VI](#)).
- b. Case Clerking by using CP2 Form ([Appendix VIII](#)).
- c. Active participation during ward rounds by identifying and intervening PCI. These activities should be documented in CP3 Form ([Appendix IX](#)).
- d. Providing medication counselling (Refer *Garispanduan Kaunseling Ubat-ubatan Edisi Kedua, 2014*).
- e. Referring discharged patients who require follow up counselling by using CP4 Form ([Appendix X](#)).

All related documents should be passed over to ward pharmacist if applicable.

Acute Pain Services (APS)/ Multidisciplinary Pain Team Round Workflow



3.4. MEDICATION COUNSELLING (PAIN)

This service is applicable to both ambulatory and inpatient settings of hospitals or health clinics that have implemented P5VS at their facility.

Patients will be selected based on any of the criteria listed below:

1. Patients on long term analgesics.
2. Patients with complex analgesic regimen or who require special instruction (e.g.: SNRI, anticonvulsants, opioids, etc.).
3. Patients with multiple comorbidities requiring close monitoring.
4. Patients from special population (e.g.: geriatric, paediatric, pregnancy)
5. Patients with poor understanding on the treatment.
6. Patients referred from other healthcare facilities through CP4 form ([Appendix X](#)).

For documentation and workflow, please refer to *Garispanduan Kaunseling Ubat-Ubatan* 2014 Pharmaceutical Services Programme, MOH. Medication counselling checklist is attached as per [Appendix III](#) in this guideline.

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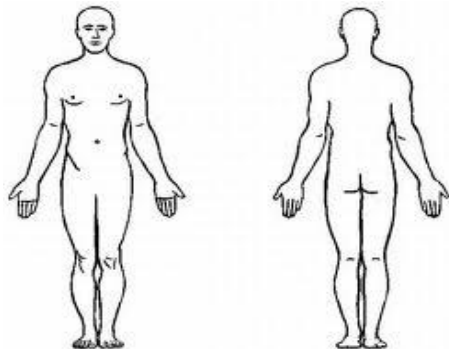
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Ref No: _____

Date : _____

PAIN MEDICATION THERAPY MANAGEMENT: PHARMACY ASSESSMENT FORM

(Initial Visit)

DEMOGRAPHY	
Name : Age : Address :	MRN/ID No: Gender: <i>Female/Male</i> Race : <i>Malay/Chinese/Indian/_____</i> Contact No : Allergy :
Diagnosis:	
Medical History:	
Social/ Family History:	
PAST MEDICATION HISTORY	
Medication History:	History of Analgesic Given: <i>Just analgesia</i>
PAIN HISTORY	
OTHERS	
Traditional complementary medicines: <i>Including acupuncture, Chinese medicines etc.</i>	
Location of Pain: <i>Circle the areas where the pain exists</i>	
	

LABORATORY VALUES						
	Normal Value	DATE	DATE	DATE	DATE	DATE
Blood Pressure (mmHg)	<130/80					
RENAL PROFILE						
Na (mmol/L)	135-145					
K (mmol/L)	3.5-5.0					
SrCreatinine (μmol/L)	57-130					
GFR (ml/min)						
LIVER FUNCTION						
T Protein (g/L)	66-87					
Albumin (g/L)	35-52					
Globulin (g/L)	20-36					
T.Bilirubin (μmol/L)	0-24					
ALT (IU/L)	0-42					
ALP (IU/L)						
(>15yrs)	34-104					
(3-15yrs)	98-369					
OTHERS						
PAIN EVALUATION						
Pain Score	Max					
	Ave					
	Min					
Pain Aggravating Factors						
Pain Relieving Factors						
CURRENT MEDICATION						
PHARMACISTS' RECOMMENDATIONS / PLAN						

Pharmacist's Name/Signature:

PAIN EVALUATION & MEDICATION REVIEW LIST

(Subsequent Visit)

Date:		Visit No.:				Date:		Visit No.:			
Chief Complain:						Chief Complain:					
Pain Score	Max					Pain Score	Max				
	Ave						Ave				
	Min						Min				
Pain Aggravating Factors						Pain Aggravating Factors					
Pain Relieving Factors						Pain Relieving Factors					
Medications		D	F	I	T	Medications		D	F	I	T
Total %						Total %					
Pharmaceutical Care Issues:						Pharmaceutical Care Issues:					
Pharmacist Intervention:						Pharmacist Intervention:					
Outcome/Plan:						Outcome/Plan:					
Pharmacist's Name/ Signature:						Pharmacist's Name/ Signature:					

How to calculate the score:

$$\text{Score (\%)} = \frac{\text{No of column with yes} \times 100\%}{\text{Total no of column}}$$

Key: D = Dose F = Frequency I = Indication T = Method of Administration

INDICATION, EDUCATION & COUNSELLING CHECKLIST

Medication counselling should include the outline below:

First Visit	(√)	Remarks
Treatment goals and medication adherence.		
Pain score		
Name of medication.		
Indication and function of each medication.		
Dosage, frequency and duration of each medication.		
Method of administration.		
Possible side effects/ adverse drug reactions.		
Proper storage of medication.		
Precaution		
Contraindication		
Action to be taken when missed a dose, under dose, or when pain was not relieved.		
Subsequent Visit	(√)	Remarks
Revision of treatment goal.		
Other therapeutic goals (if necessary).		
Specific medication counselling.		
Patient's concern.		
Evaluating the pain score vs. medication		
Monitor signs of addiction, misuse and tolerance of drugs.		

MEDICATION COUNSELLING POINTS & MONITORING

Non-opioid Analgesic:

Name of Medication	Potential Adverse Effects	Counselling Points	Monitoring
1. Paracetamol	- Hepatic – increased bilirubin and alkaline.⁶ - Renal – increased ammonia. - Allergic reactions, skin rash	- May be taken regardless of food intake. - Do not consume more than 8 tablets (4g) in 24 hours. - Abstain from heavy alcohol consumption if paracetamol is a necessary component of their drug therapy or try not to exceed 2g/day of paracetamol if they cannot abstain from drinking.⁷	Liver Function Test
2. Non-selective NSAIDs: Ibuprofen, Diclofenac, Naproxen, Indomethacin, Mefenamic Acid, Meloxicam, Ketoprofen.	- Dyspepsia, GI bleeds, GI disturbances, ulcer, abdominal pain, nausea, vomiting, dizziness, renal impairment.⁸ - Increased risk of stroke and myocardial infarction.⁹	- To be taken after food. - Patients who are at risk of GI complications should be prescribed with proton pump inhibitor or H2 receptor antagonists as pharmacological prophylaxis.¹⁰	- Careful monitoring of side effects. - Renal function test - INR
3. Selective COX2 Inhibitors: Celecoxib, Etoricoxib, Parecoxib.	- GI disorders - COX2 inhibitors can also lead to renal impairment and adverse cardiovascular effects, particularly with long term use.⁹	To be taken after food	Careful monitoring of side effects.

Opioid Analgesics

Name of Medication	Potential Adverse Effects	Counselling Points	Monitoring
1. Tramadol	Sweating, nausea, dizziness, vomiting, dry mouth, GI disturbances, and cerebral convulsions.	- Do not handle machinery activity due to reduced level of consciousness. - Drowsiness and dizziness may be potentiated by alcohol and other CNS depressants.	Close monitoring for signs of respiratory depression.
2. Dihydrocodeine, codeine	GI disturbances, headache, drowsiness, nausea, vomiting, confusion, vertigo, respiratory depression.	- Do not consume alcohol. - Do not take for longer than directed by your prescriber. - Taking dihydrocodeine regularly for a long time can lead to addiction, which might cause you to feel restless and irritable when you stop the tablets. - Dihydrocodeine produces sedation and may also cause changes in vision, including blurred or double vision. If affected, patients should not drive or operate machinery. The effects of alcohol are enhanced by opioid analgesics.	- Close monitoring for signs of respiratory depression. - Monitoring for signs of misuse, tolerance, or addiction.

Name of Medication	Potential Adverse Effects	Counselling Points	Monitoring
3. Buprenorphine transdermal patch.	• Application site erythema, irritation, rash. Pruritus. • GI: Bowel obstruction, constipation, nausea, vomiting. • Neurologic: Dizziness, headache, loss of consciousness, somnolence, confusion, depression, insomnia, nervousness.	• Apply patch to dry, non-irritated, hairless area on upper torso. • Replace every 7 days. Do not use more than 2 patches each time regardless of the strength. When wearing patch, do not allow coming into contact with direct heat sources (e.g. heat pads, heat lamps, and sauna). Refer to the patient information leaflet for the application instructions of the patch.¹² • Do not handle machinery activity due to reduced level of consciousness.	• Liver Function Test for patients with hepatic impairments.⁸ • Renal Function Test
4. Morphine	• Cardiovascular : Peripheral Oedema • Dermatologic : Pruritus, Rash, Sweating • GI : Abdominal pain, Constipation, Diarrhoea, Nausea and Vomiting • Musculoskeletal : Backache • Neurologic : Asthenia, Dizziness, Headache, Insomnia, Somnolence, Paraesthesia, Depression • Ophthalmic : Amblyopic, Myosis • Renal : Urinary retention • Respiratory : Dyspnoea	• Controlled release tablets should be swallowed whole, do not crush or chew them. • Take medication as directed.	• Close monitoring for signs of respiratory depression. • Monitoring for signs of misuse, tolerance, or addiction.

Name of Medication	Potential Adverse Effects	Counselling Points	Monitoring
5. Oxycodone	• Dermatologic : Pruritus, Sweating • GI : Constipation, Nausea, Vomiting, Xerostomia • Neurologic : Asthenia, Dizziness, Somnolence • Cardiovascular : Postural hypotension • Respiratory : Dyspnoea, Respiratory depression	• Do not break, crush or chew the controlled release tablet.	• Close monitoring for signs of respiratory depression. • Monitoring for signs of misuse, tolerance or addiction.
6. Fentanyl patch	transdermal • Immune System Disorders: Hypersensitivity • Metabolism and Nutrition Disorders: Anorexia • Psychiatric Disorders: Insomnia, Somnolence, Depression, Anxiety, Confusional state, Hallucination • Nervous System Disorders: Dizziness, Headache, Tremor, Paraesthesia • Cardiac Disorders: Palpitations, Tachycardia • Vascular Disorders: Hypertension • Respiratory, Thoracic and Mediastinal Disorders: Dyspnoea • GI: Nausea, Vomiting, Constipation, Diarrhoea, Dry mouth, abdominal pain, Dyspepsia.	• The medicine is likely to affect the ability to drive, do not drive until you know how the medicine affects you.¹² • Do not cut the fentanyl patches without the prescriber's advice. A patch that has been divided, cut or damaged in any way should not be used.¹²	• Close monitoring for signs of respiratory depression. • Monitoring for signs of misuse, tolerance, or addiction.

Adjuvant Analgesics

Name of Medication	Potential Adverse Effects	Counselling Points	Monitoring
1. Antidepressant: Tricyclics (Amitriptyline, Nortriptyline).	Sedation, confusion, nausea, vomiting, seizures, tachycardia, arrhythmia, anticholinergic effects (dry mouth, blurred vision, urinary hesitancy).^{8,11}	- Report worsening depression and unusual behavioural changes. - Patients to avoid activities requiring mental alertness until drug effects are realised. - Patients to report use of a monoamine-oxidase inhibitor within 14 days prior to initiating drug therapy. - To report signs and symptoms of serotonin syndrome, and jaundice or any signs/symptoms of liver toxicity in the elderly.	- Careful monitoring of side effects. - Liver Function Test.
2. Antidepressant: SNRI (Duloxetine).	GI disorders, excessive sweating, CNS disorders (dizziness, sleepy, headache, fatigue, insomnia, somnolence, blurred vision, dysuria), hepatotoxicity, suicidal thought, palpitation.⁸	- If there are suicidal thoughts at any time, contact the prescriber or go to a hospital straight away. - May be taken with or without food. - Do not handle machinery activity due to reduced level of consciousness.	
3. Anticonvulsant: Carbamazepine, Sodium Valproate, Gabapentin, Pregabalin.	Somnolence, dizziness, headache, nervousness, tremor, fatigue, mood changes, confusion.¹¹	Do not handle machinery activity due to reduced level of consciousness.	Careful monitoring of side effects.

Name of Medication	Potential Adverse Effects	Counselling Points	Monitoring
4. N-Methyl-D-Aspartate (NMDA) Receptor Antagonists: Ketamine.	Hypertension, tachycardia, tremor, nystagmus, diplopia, airway resistance, myocardial depression.¹¹	Ketamine should only be used in consultation with a specialist in pain medicine, anaesthesia or palliative care.	Careful monitoring of side effects. Liver Function Test.
5. Biphosphonates: Pamidronate, Zoledronate, Clodronate	- Hypomagnesaemia, hypocalcaemia, hypokalaemia, hypophosphatemia, nausea, diarrhoea, constipation.¹¹ - Renal toxicity.¹⁰	Calcium and vitamin D supplements may be considered if dietary intake is insufficient.¹⁰	- Calcium level monitoring.¹⁰ - Renal function test.
6. Corticosteroids: Dexamethasone, Prednisolone.	Hyperglycaemia, increased appetite, weight gain, oedema, cushingoid habitus, dyspepsia, delirium, insomnia, agitation.¹¹	To be taken after food.	Blood glucose level
7. Anticholinergic: Hyoscine Butylbromide.	Somnolence, dizziness, hypotension, dry mouth.¹¹	May be taken before food to increase absorption.	

**For dosage of each drug, please refer to the relevant references of particular disease.*

USING STRONG OPIOIDS

The use of opioid therapy for chronic non-cancer pain has increased substantially. However, there are also potential serious harmful effects associated with opioids and these include opioid-related adverse effects, opioid abuse, addiction and diversion.¹³ Opioid risk tool (ORT) is one of the screening and diagnostic tools available designed to predict the probability of a patient displaying aberrant behaviours when prescribed opioids for chronic pain.¹⁴

Date:

Patient Name:

OPIOID RISK TOOL

		Mark each box that applies	Item Score If Female	Item Score If Male
1. Family History of Substance Abuse	Alcohol	[]	1	3
	Illegal Drugs	[]	2	3
	Prescription Drugs	[]	4	4
2. Personal History of Substance Abuse	Alcohol	[]	3	3
	Illegal Drugs	[]	4	4
	Prescription Drugs	[]	5	5
3. Age (Mark box if 16-45)		[]	1	1
4. History of Preadolescent Sexual Abuse		[]	3	0
5. Psychological Disease	Attention Deficit Disorder	[]	2	2
	Obsessive Compulsive Disorder			
	Bipolar			
	Schizophrenia			
	Depression	[]	1	1
TOTAL		[]		
Total Score Risk Category		Low Risk 0-3	Moderate Risk 4-7	High Risk ≥ 8

Figure 6: Risk Assessment Tool – Opioid Risk Tool (ORT)

Education

Common side effects and management.

** Refer to medication counselling points and monitoring table of the opioid analgesics.*

Safety Concern: A Guide for Pharmacists

1. Overmedication/ overdosing - Opioids can cause overdose and death if they are not used correctly.

a) Overmedication warning signs:

- Intoxicated behaviour - confusion, slurred speech, stumbling.
- Feeling dizzy or faint.
- Feeling or acting very drowsy or groggy, or nodding off to sleep.
- Unusual snoring, gasping, or snorting during sleep.
- Difficulty waking-up from sleep and becoming alert or staying awake.

b) Overdose warning signs:

- Person cannot aroused or wakened, or is unable to talk if awakened.
- Difficulties in breathing; such as shortness of breath, slow or light breathing, or stopped breathing.
- Gurgling noises coming from mouth or throat.
- Body is limp, seems lifeless. Face is pale, clammy.
- Fingernails or lips turned blue/ purple.
- Slow, unusual or no heartbeat.

c) If there are warning signs of opioid overmedication/ overdose, patient/ caregiver should:

- **Stop taking** the opioid medicine.
- **Stay awake** and **call your healthcare provider**/call someone for help immediately. Make sure emergency contact number always available.

2. Issues – Patients taking opioids as directed to relieve pain seldom become addicted to the medicines.

a) Addiction:

- Most commonly develops when a person misuses, or abuses opioid drugs. That is, the person takes opioids more for the mind-altering effects they produce such as to feel 'high', calm or relaxed, or in a 'good mood' rather than for pain relief itself.
- After a while, if the person tries to cut back or to quit misusing the opioids, it causes uncomfortable feelings both physically and mentally. This could lead to overpowering cravings or urges to take more opioids.

b) Withdrawal

- May occur naturally after you get used to having a steady amount of opioid medicine in your body to feel and function well. If the amount of opioid medicine is quickly decreased or suddenly stopped entirely, you may feel the effects of opioid withdrawal.

Symptoms & Signs of Opioid Withdrawal

- | | |
|-----------------------------|-----------------------|
| • Muscle and joint aches | • Irritable, restless |
| • Stomach cramps | • Diarrhoea |
| • Rapid breathing | • Vomiting |
| • Racing heartbeat | • Tremors or shakes |
| • Repeated yawning | • Heavy sweating |
| • Runny nose and eyes | • Loss of appetite |
| • Enlarged (dilated) pupils | • Craving for opioid |
| • Drooling | • Confusion |
| • Goose bumps | • Chills |
| • Trouble sleeping | • Hot flashes |

Not everyone will experiences all of these effects during opioid withdrawal, at all times or to the same extent.

c) Abrupt Discontinuation

- Abrupt discontinuation of opioid is not allowed. Ideally, slow and gradual process called 'tapering' is recommended (With the prescriber's advice).
- Drink a lot of fluid, try to stay calm and keep reassuring yourself that the withdrawal effects will pass with time and you will eventually feel better.

Opioids Storage & Supply

1. Advice to patients:

a. Storage

- Keep at cool, room temperature
- Keep away from children / pets
- Ensure containers are properly labelled and sealed tightly
- Preferably, place in your personal, locked cabinet
- NEVER share your opioid medications with others
- Bring along adequate supply upon travelling, or to work

b. Supply:

- You will be given exact supplies as according to orders made by your pain specialist until your next scheduled appointment with the pain clinic.
- The pharmacist will perform pill counting at every visits.
- You are expected to return any balance of supplies to the healthcare facilities if there are changes in the pain medication regimen or there are any unexpected casualties (death).

2. Recording

- a. The pharmacist for documentation purposes will officially record all supplies given.
- b. All recordings must adhere to Poisons (Psychotropic Substances) Regulations 1989.

3. Point to consider

- a. Medications were prescribed according to weeks (e.g. 4 weeks vs. 1 month).

MEDICATION HISTORY ASSESSMENT FORM**CP 1**

PHARMACY DEPARTMENT, HOSPITAL.....

FORM TO BE FILLED BY THE PHARMACIST UPON PATIENT ADMISSION**A: PATIENT BIODATA**

Full Name : _____

Gender : M / F Age : _____

RN/IC : _____

Address : _____

Phone No : _____

Admission Date/Time : _____

Ward/Bed : _____

PMHx : _____

Last Discharge / Review Date : _____

B: REASON FOR ADMISSION**C: ALLERGY & ADVERSE DRUG REACTION****D: DRUG HISTORY**

Patient's own drugs checked?

☐

Yes

☐

No

Source of medication list :

MEDICATION (Specify strength)	DOSE	FREQUENCY	BALANCE FROM PREVIOUS SUPPLY	WRITE C FOR CONTINUE, DC FOR DISCONTINUE, WH FOR WITHHOLD	COMMENTS

NON-PRESCRIPTION MEDICATION (Includes Herbal/Vitamin/Other Supplements)	REASON FOR TAKING	BALANCE/COMMENTS

E: PHARMACIST NOTES

Pharmacist Sign & Stamp : _____

Time / Date : _____

Original : To be kept in patient's folder

Duplicate : To be kept by Pharmacy

Pin. 1/10

Pre-Anaesthetic Counselling: Medication Instruction for Patient

Hospital :
 Department :
 Name of Patient :
 Date of Procedure :

Medication to Withhold

Medication Name	When to Withhold

Evening before Procedure

Medication to Take	Do NOT Take

Morning of Procedure: _____

Medication to Take	Do NOT Take

Appendix VIII –a



PHARMACOTHERAPY REVIEW (CP2)

Pharmacy Department, Hospital _____
Ward: _____ Bed: _____

Pin.1/13

ALLERGY:

A. DEMOGRAPHIC DATA												
Name :		MRN :		Age :		Gender : M / F		Race : M / C / I / Others		Ht/Wt :		DOA :
Chief Complaint:		History of Present Illness:					Past Medical History:					
Review of System:		Past Medication History:					Social/ Family History:		Smoking			
BP:		RR:							Alcohol			
PR:		T:							Drug Abuse			
RBS:		SpO2:							Pregnant			
Compliance Evaluation:												
Diagnosis/Surgical Procedure:												
B. LABORATORY INVESTIGATION												
		Date	1	2	3	4	5	6	7	8	9	10
FBC	TWBC	4-11 x10/L										
	Hb	11.5-16.5 g/100mL										
	Platelet	150-400 x10/L										
BUSE /Renal Profile	Urea	1.7-8.3 mmol/L										
	Na ⁺	135-145 mmol/L										
	K ⁺	3.5-5.0 mmol/L										
	Cl ⁻	96-106 mmol/L										
	SCr	64-122 umol/L										
	CrCl	105-150 ml/min										
	Ca ²⁺	2.1-2.6 mmol/L										
	Mg ²⁺	0.7-1.3 mmol/L										
LFT	PO4 ⁻	0.8-1.45 mmol/L										
	Albumin	35 – 50 g/L										
	T.Bilirubin	<20 umol/L										
	T.Protein	66 – 87 g/L										
	ALP	53 – 141 u/L										
Coag.	ALT	<32 u/L										
	PT	10-13.5 sec										
	APTT	26 – 42 sec										
CE	INR	<1.5										
	CK	24 – 195 u/l										
	LDH	0 – 248 u/l										
ABG	AST	<37 u/l										
	pH	7.35-7.45										
	pCO2	35-45mmHg										
	pO2	72-100mmHg										
	HCO3	22-29mmol/L										
Others	O2 sat	90-95%										
	RBS	< 11 mmol/L										
I/O												
	Input											
	Output											
C&S	Balance											
	Date (Sampling)	Date (Result)	Source/Sample	Microorganism	Sensitivity	Resistance						

C. WARD MEDICATION					
	Drug/Regimen	Start Date	Stop Date	Indication/ Reason for Change	Reconciliation Note S-Stopped / W-Withhold/ D-Continue on Discharge (*Duration)
ANTIBIOTICS					
OTHER MEDICATIONS					
	D. PHARMACEUTICAL CARE PLAN				
Date	Pharmaceutical Care Issues	Pharmacist's Recommendations / Plan		Outcome	

Pharmacist's Sign & Stamp: _____ Reviewed by: _____

CLINICAL PHARMACY REPORT FORM

Pharmacy Department, Hospital

A: WARD PHARMACY ACTIVITY

Date :	Routine Rounds	
Ward :	Grand Rounds	
Task : Full Time / Part Time	Pharmacist Rounds	
Physician(s) :	Number of Cases Clerked	
	Number of Cases Reviewed	
	Number of Patients in Ward	
	Number of Medication History (CP1) Taken	

B: INTERVENTIONS / REQUESTS ENCOUNTERED

Interventions	No.	Description	Number of Interventions	Number of Interventions Accepted	Request / Information Provided	Number	Total
(1) Incomplete Prescription	1.1	Patient data			Adverse Drug Reaction		
	1.2	Drug			Drug Toxicity		
	1.3	Dose			Drug Dosage		
	1.4	Frequency			Therapeutic Efficacy		
	1.5	Duration			Drug Indication		
	1.6	Dr's Stamp & Sign			Drug Interaction		
(2) Inappropriate Regimen	2.1	Drug			Pharmacokinetics		
	2.2	Dose			TPN		
	2.3	Frequency			General Product Information		
	2.4	Duration			Pharmaceutical Availability		
	2.5	Polypharmacy			Pharmaceutical Compatibility		
	2.6	Contraindication			Pharmaceutical Identification		
	2.7	Drug Interaction					
	2.8	Incompatibility					
(3) Miscellaneous	3.1	Wrong Patient					
	3.2	Drug Not in Formulary					
	3.3	Drug Administration Error			TOTAL INFORMATION PROVIDED		
	3.4	Unclear Handwriting					
	3.5	Authenticity of Prescription/ Prescriber					
	3.6	Suggest For Vital Signs Monitoring/ Laboratory Investigation					
	3.7	TDM					
	3.8	TPN					
TOTAL INTERVENTIONS							

COUNSELLING	Number of Sessions	Total Number of Patients
Bedside Counselling		
Discharge Counselling		
Group Counselling		
GRAND TOTAL		

C: DESCRIPTION OF REQUESTS / INTERVENTIONS ENCOUNTERED

D: FOLLOW-UP REQUIRED

NO.	FOLLOW-UP	CHECKLIST	SIGN

.....
Pharmacist's Sign & Stamp
Date:



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