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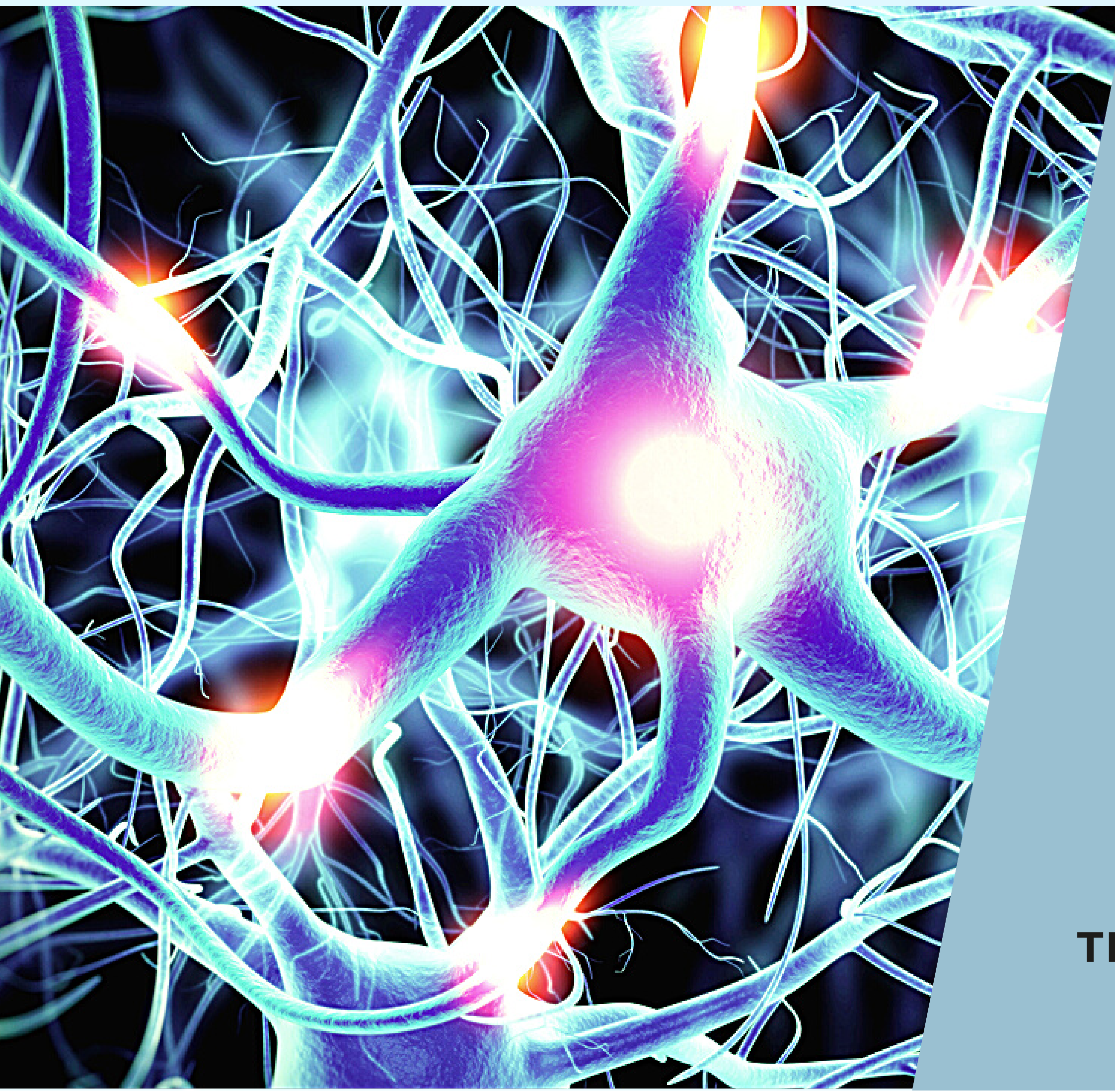
Ministry of Health Malaysia
Pharmaceutical Services Programme

PAIN PHARMACOTHERAPY SERVICES: GUIDELINE FOR PHARMACY



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PREFACE

Access to pain management is a fundamental human right as stated in the Declaration of Montreal, 2010. Over the years, various initiatives have been implemented by Ministry of Health Malaysia to support Pain Free Programme and the recognition of pain as the 5th vital sign, a successful journey which has expanded across the continuum of healthcare settings. Raising the awareness on the importance of adequate pain management has been the cornerstone in shaping up the model of good care in managing pain systematically, either pharmacologically or non-pharmacologically.

Madam Fuziah binti Abdul Rashid
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Pharmacists as part of the multidisciplinary healthcare team play a vital role in optimising pain management, hence improving the patients' quality of life. They serve in a multitude of roles such as the provision of clinical recommendation, promoting quality initiative projects as well as supporting other relevant technical activities in improving pain management.

This guideline imparts comprehensive information on various pain pharmacotherapy services which can be provided by pharmacists to achieve optimal patient outcome. I am thankful to everyone who has contributed to the revision of this guideline and I sincerely hope that the profession will continue to strive to provide the best pain pharmacotherapy services to the nation.

Thank you.

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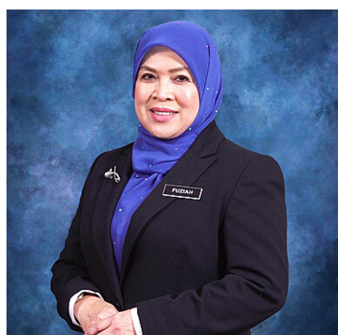

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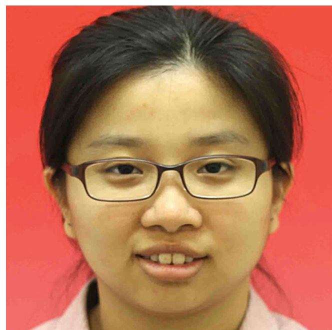

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CHAPTER 1: INTRODUCTION

1.1 OVERVIEW OF PAIN

The definition of pain has been revised by the International Association for the Study of Pain (IASP) in year 2020 as “An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage”. Pain is subjective and patient’s self-reporting is essential for appropriate management. Undertreatment of pain is a substandard medical practice and could lead to negative impact on social aspects including depression and loss of job.[1]

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.

CHAPTER 1: INTRODUCTION

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.

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 approach is the best to achieve optimum outcome in the management of pain. 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 approximately $97,200 for the 12-month period.[5]

In terms of pain medication safety, National Pharmaceutical Regulatory Agency (NPRA), Malaysia had stated 4411 Adverse Drug Reaction (ADR) cases were reported in year 2021 involving 13 types of NSAIDs (Non-Steroidal Anti-inflammatory Drugs). Skin and subcutaneous disorders were the major occurring reaction (36.4%), followed by eye disorders (33.3%), general disorders and administration site condition (11.8%), respiratory, thoracic and mediastinal disorders (11.3%) and gastrointestinal disorders (7.2%).

In terms of patient outcome, a systematic review evaluating the effectiveness of pharmacist in pain management has shown significant positive impacts in patient outcomes.[6] Participation by pharmacist in multidisciplinary pain management team leads to mark reduction of pain intensity, improved physical functioning as well as improved patient satisfaction to the treatment.

> Therefore, pharmacists play an essential role in ensuring safety and safeguarding the cost effectiveness of pain medications to achieve best overall patient outcome.

1.2 PAIN FREE PROGRAMME (PFP) AND PAIN AS THE 5TH VITAL SIGN (P5VS)

With the growing concern of undermanagement 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 core strategy to improve pain management in MOH facilities since 2008. It is one of requirements for accreditation as Pain Free Hospital / Health Clinic.[3]

Pain Free Programme (PFP) 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 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 PFP Committee in 2013 consisting of healthcare professionals from various disciplines.[6]

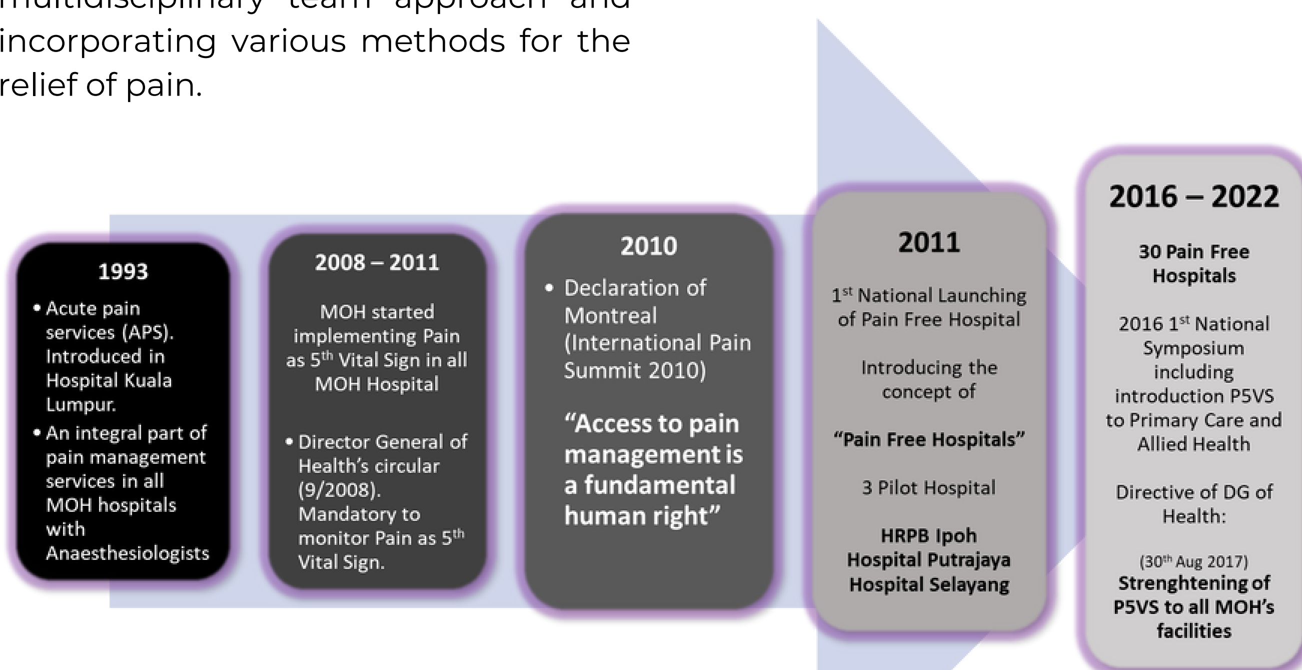


Figure 1: Pain Free Journey

The objectives of PFP are pain free surgery, pain free labour, pain free procedures, pain free rehabilitation and pain free discharge. The main components of PFP 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 2).[4]

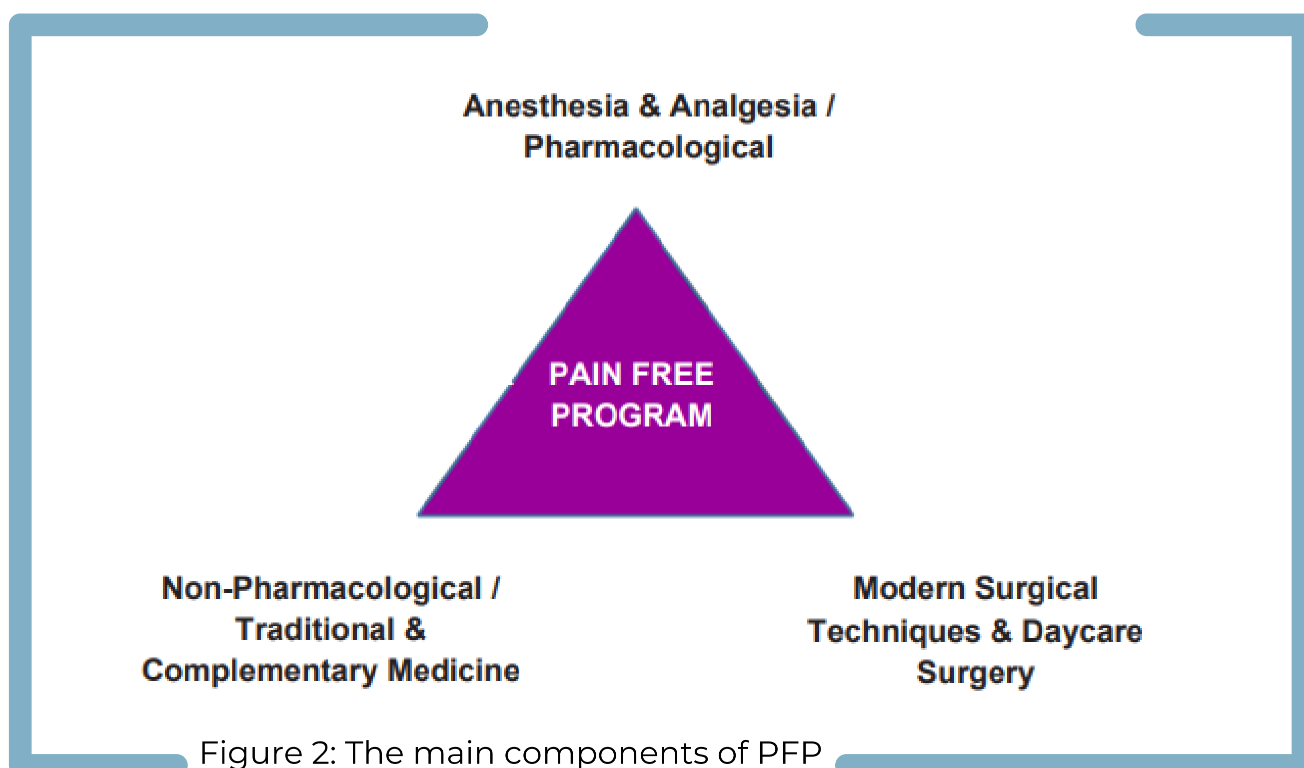


Figure 2: The main components of PFP

1.3 CLASSIFICATION OF PAIN

Table 1: Type of pain

Basis of Classification	Type of pain	Description
Duration	Acute	Pain of recent/ sudden onset (e.g. pain after surgery)
	Chronic	Last more than 3 months Pain persists even after wound is healed
Cause	Cancer	Progressive, many different causes May be a mixture of acute and chronic
	Non-cancer	Acute or chronic pain (e.g. surgery, injury, degenerative) The cause may or may not be obvious
Mechanism	Nociceptive 'Physiological Pain'	Obvious tissue injury or illness Somatic: bones and tissues (well localized) Visceral: abdomen, thoracic cavity (sharp, throbbing, aching)
	Neuropathic 'Pathological Pain'	Nervous system damaged or abnormality May not see tissue injury, not well localized Burning, tingling, pins and needles, shooting

Table 2: Duration; Differences between acute and chronic pain

Aspect	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 fluctuates, varying between 'bad days' and 'good days'.

(con't) Table 2: Duration; Differences between acute and chronic pain

Aspect	Acute Pain	Chronic Pain
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 (PHN), diabetic peripheral neuropathy, post spinal cord injury pain and central post stroke pain.

Pain Management

Table 3: Mechanism; Differences between somatic, visceral and neuropathic pain

Type of Pain	Somatic	Visceral	Neuropathic
Patho-physiology	Damage to skin and connective tissues by cancer or other injury leading to inflammation	Internal organs stretching or distension from cancer infiltration or obstruction	Damage to sensory nerves due to injury or infiltration from cancer leading to abnormal signalling
Clinical Description	• Sharp, stabbing, aching, throbbing • Well localised • Worse on movement	• Dull aching, colicky, gnawing, cramping • Poorly localised • May be referred to other somatic site	• Numb, burning, electric shock, pins and needles, shooting, prickling • Dermatomal distribution
Examples	• Musculoskeletal pain • Inflammatory diseases • Trauma/ fractures • Surgical wounds • Malignant ulcers	• Ureteric colic • Dysmenorrhea • Bowel obstruction • Liver metastasis	• Trigeminal neuralgia • Painful DM neuropathy • Brachial plexopathy • Sciatica
Treatment approach	• NSAIDs / COX-2 inhibitor if mild to moderate • Opioid if severe	• Good response to opioids	• Partial response to opioid • Need adjuvant analgesics

1.4 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.

Examples of pain assessment tools are elaborated below:[9]

1. The Numeric Rating Scale (NRS) Ministry of Health Malaysia pain scale which is used in adult and children more than 7 years old (Figure 3).

Figure 3: NRS MOH Scale

2. Visual Analog Scale (VAS) Ministry of Health Malaysia pain scale which is used in children age 4 to 7 years (Figure 4)

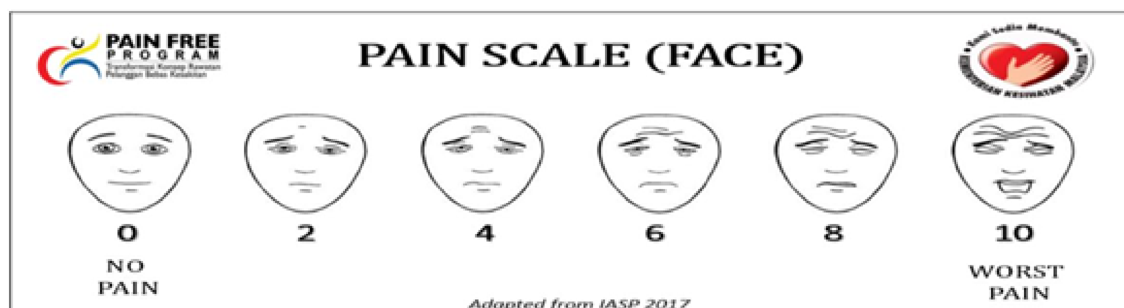


Figure 4: VRS MOH Scale

3. FLACC scale is applicable for children age 1 month to 4 years old and adult patient unable to communicate verbally (Figure 5).

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	Squiring, 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 5: FLACC Scale

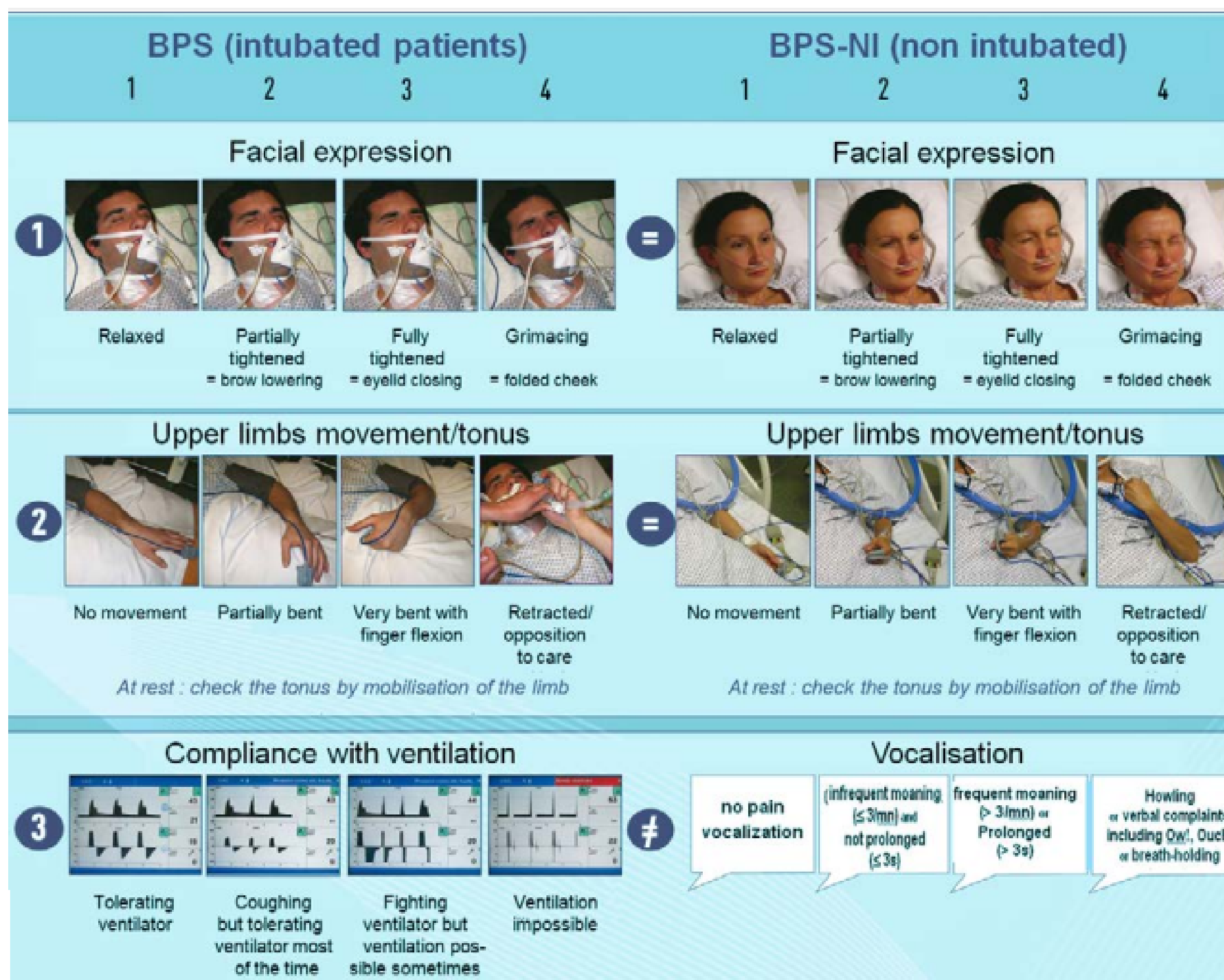
4. The Critical Care Pain Observation Tool (CPOT) (Figure 6) and Behavioural Pain Scale in intubated (BPS) and non-intubated (BPS-NI) patients (Figure 7) demonstrate the greatest validity and reliability for monitoring pain in patient unable to self-report in critical care.

Facial expression	Relaxed	Tense	Grimacing
	0	1	2
Body movement	Absence of movement or normal position	Protection	Agitation
	0	1	2
Muscle tension	Relaxed	Tense, rigid	Very tense/ rigid
	0	1	2
Compliance with ventilator (intubated)	Tolerating ventilator or movement	Coughing but tolerating	Fighting ventilator
	0	1	2
Vocalization (extubated)	Normal or silent	Sighing or moaning	Crying out or sobbing
	0	1	2

Directive to use:

- Rating: the highest score observed.
- Assess the muscle tension the last when patient is at rest.
- A score of >2 indicates the occurrence of pain (Max score = 8)
- Does not measure severity of pain.
- Validated in English, French, Mandarin, Korean, Spanish, Swedish

Figure 6: Critical Care Pain Observation Tool (CPOT)



Directive to use:

- Total score varies from 3 to 12
- Scores ≤3 no pain.
- Scores 4-5 mild pain.
- Scores 6-11 an unacceptable amount of pain.*
- Scores ≥12 maximum pain.*
- Target score < 5.

Figure 7: Behavioural Pain Scale in intubated (BPS) and non-intubated (BPS-NI) (Source: Payen et al. 2001; Chanques et al. 2009)

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

2.1 BACKGROUND

Across the continuum of healthcare, pharmacists play a multitude of roles essential to the provision of good pain management. These roles can be broadly divided into clinical services, quality initiatives as well as technical support. It is recommended that any facility offering Pain Pharmacotherapy Services should consider these general roles and activities for pharmacists, as further elaborated below. However, services provided by a pharmacist in pain management should of course be adaptive and designed to best meet the needs of the healthcare practice setting.

Pharmacist led Pain Medication Therapy Clinics have been around since as early as 2009, even before the Pain Free Hospital concept was initiated. The first few hospitals that offered these services were Hospital Selayang, Hospital Tengku Ampuan Rahimah, Klang and Hospital Kuala Lumpur.

The Pain Free Hospital concept, formally introduced in 2011, advocates a multidisciplinary team to manage pain, which comprises doctors, nurses, pharmacists, occupational therapists, physiotherapists, clinical psychologists and other allied health personnel. With the propagation of the Pain Free Hospital concept, pharmacist led Pain Medication Therapy Management services grew and expanded to other major hospitals. To date, there are 19 hospitals with Pharmacist led Pain Medication Therapy Management Clinics.

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

2.2 CLINICAL SERVICES

Pharmacists who work in Pain Pharmacotherapy Services are part of a multidisciplinary team providing holistic, patient-centred care. They are well positioned to work with patients to develop individualised plans and optimise the safe use of their pain medications. They also conduct pain education and collaborate with other healthcare providers to improve patient outcomes.[15,16,17]

Ideally pharmacists play an essential clinical role in both the ambulatory as well as inpatient settings. Ambulatory settings include the Pain Medication Therapy Management Clinic as well as the Pre-Anaesthetic Medication Therapy Management Clinic, while the Inpatient setting would typically include Acute Pain Service (APS)/ multidisciplinary pain management rounds. Pain medication counselling by pharmacists is also available at both outpatient and inpatient settings.

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

Pharmacists can screen, monitor, make treatment recommendations as well as counsel and educate patients in all of these settings:

1. Assessing patient's medical status and medication history
   - Understanding patient's pain history
   - Gathering a best possible history of all prescription and non-prescription medications especially with regards to pain medications, including any vitamins, dietary supplements, herbal products or traditional medications used.
   - Where possible, also include medications previously tried and discontinued as well as drug allergies

2. Managing patients' medication therapy
   - Ensuring individualised and optimal therapy based on type of pain, drug interactions and patient preference where possible, guided by evidence as well as available clinical guidelines, to improve the safety and efficacy of pain medications
   - Continuous medication review that includes prompt identification of potential drug-related problems and risk mitigation.

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

3. Monitoring patients' progress and outcomes
   - Utilising standardised tools such as the MOH Pain Scale to track patients' response to medications
   - Assessing patients' adherence to medications, side effects encountered and changes in pattern of consumption, or need for different routes of administration
   - Recommending treatment changes or the discontinuation of medications where applicable.

4. Providing information about medication and other health-related issues
   - Conducting medication reconciliation and medication education for patients and caregivers to enable self-management and safer analgesic use
   - Serving as a resource person for other healthcare professionals regarding medication use and its policies in pain management

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

2.3 QUALITY INITIATIVES

In addition, pharmacists may participate in continuous education and other quality initiatives such as quality assurance, research and development as well as innovation projects in pain pharmacotherapy. Pharmacists also play an essential role in medication safety activities that address medication errors and adverse drug reactions.

The following initiatives can increase the use of evidence-based multimodal pain management strategy and facilitate the development of patient-centered care:

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

2.4 TECHNICAL SUPPORT

In a more technical capacity, pharmacists have the opportunity to develop and provide oversight for an institutional medication formulary, as well as policies and procedures regarding medication use.[18–19] This helps ensure pain pharmacotherapy practices are consistent, evidence-based and cost-effective.

Pharmacists working in distributive or compounding services also support the provision of pain management by ensuring medication formulations are prepared and distributed meticulously and to standard, while the dispensing pharmacist ensures patients and caregivers receive the necessary education on the role, and safety precautions of their medications.[20–22]

1. Performing drug utilisation reviews
   - Unregistered medications which require an import permit under the Control of Drug and Cosmetic Regulations 15(6) 1984
   - Medications listed in the Ministry of Health Drug Formulary, which comprise various prescriber categories (A*, A, A/KK) as well as psychotropic substances
   - Medications which require special approval from the Director General of Health / Senior Director of Pharmaceutical Services, e.g. medications that are not listed in the MOH formulary, or listed for different indications

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

2. Procuring pain medication & helping to manage supply

- Coordinate with other relevant units to monitor usage patterns, drug quota, import permit items and slow moving medications
- Ensure sufficient stock availability and help establish and implement contingency plans in the event of stock disruptions
- Mobilise stock between units or facilities to ensure optimal levels and minimise wastage
- Develop workflows and procedures together with relevant units, for the preparation of IV admixture pain medications (PCA and epidural cocktails) and extemporaneous preparations (syrup morphine) in accordance with the Ministry of Health Formulary and relevant references
- Ensure documentation is done in a complete and standardised manner
- Assure the handling and distribution of medications do not compromise reliability and safety of medicine
- Ensure access to pain medications and develop mechanisms to ensure adequate supplies of medications for patients

CHAPTER 2: ROLES AND RESPONSIBILITIES OF PHARMACIST IN PAIN MANAGEMENT

3. Managing psychotropic substances
    - Ensuring access to psychotropic substances where necessary, especially for treating severe pain
    - Developing and implementing proper handling and dispensing procedures to minimise the risk of diversion and abuse
    - Monitoring that the procurement, storage and handling of these medications ensure drug viability and comply with all regulatory and accreditation needs

4. Reviewing and monitoring applications for medications which require special approval from the Director General of Health/ Senior Director of Pharmaceutical Services

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

Pharmacy department in MOH facilities that implement P5VS can provide Pain Pharmacotherapy Services as shown in Figure 8:

AMBULATORY SETTING

- Pain Medication Therapy Management Clinic (Pain MTM Clinic)
- Pre – Anaesthetic Medication Therapy Management Clinic
- Pain Medication Counselling

INPATIENT SETTING

- Acute Pain Service (APS) / Multidisciplinary Pain Team Round
- Pain Medication Counselling
- IV Admixture Service

COMMUNITY

- Pain Medication Counselling

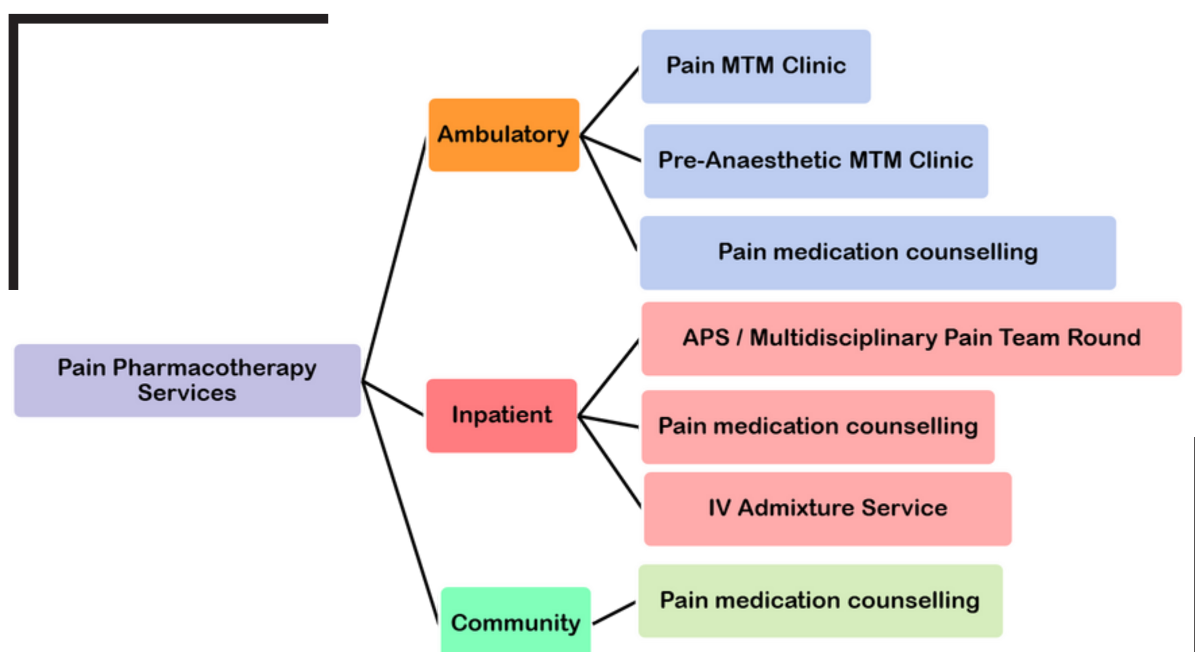


Figure 8: Pain Pharmacotherapy Services

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

3.1 OBJECTIVES OF PAIN PHARMACOTHERAPY SERVICES

- To optimise pain therapy (to control/reduce pain) by recommending an individualised pain regimen.
- To minimise adverse events and medication errors by reviewing patients' past and current medication
- To counsel patients on appropriate use of pain medications and to increase patients' understanding on their medications.
- To engage in effective communication with multidisciplinary team in the optimisation of pain management.

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 Pain Medication Counselling 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.

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

A. Scope of Service

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

B. Location of service

Preferably but not limited to pain clinic area during clinic days.

C. Manpower Requirement

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

D. Appointment

1. Initial Visit:

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 for subsequent visits (minimum of 3 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 who are newly started on analgesics and adjuvants (first time seen by pain specialist/ FMS).
- Patients whose therapeutic goals have not been achieved with current pain medication regimen.
- Patient with chronic pain requiring long-term use of pain medication and regular monitoring.
- Patients who are referred to Pain MTM Clinic with specific criteria as below will be included, but not limited to:

-Changes in pain medication regimen.
-Experiencing side effects or complications due to their pain medications.
-On strong opioids therapy.
-Poor understanding on pain medication regimen.

F. Initial Assessment

Initial assessment consists of the following:

- History of underlying co-morbidities.
- Pain history and assessment
  -Identify location of pain and mark the pain site(s) on the body chart.
  -Identify pain aggravating and relieving factors.
  -Evaluate pain intensity using the pain assessment tools.
- Past medication history
  -Any previous analgesics and adjuvants given and their efficacy.
  -Any OTC medications/ traditional or complementary medications.
  -Prescribed medications for chronic illness.
- Patients' allergy status
- Relevant laboratory values (if applicable).
- Medication review (specific to pain regimen)
  -Review current pain regimen started by the pain clinician.
  -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).

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

G. Follow Up Assessment

Follow up assessment should be done during next scheduled appointments and this includes;

- Pain assessment
- Pharmaceutical review
  - -Pharmaceutical care issues (PCI)
  - -Interventions and outcomes
  - -Medication knowledge assessment by using DFIT
- Medication review (pain regimen) plan and recommendations
- 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).

H. Medication Education and Counselling

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

Pharmacists are responsible to elaborate and reinforce on these details:

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

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

I. Pharmacotherapy review

- Pharmacists should identify any pharmaceutical care issues (PCI) at the earliest opportunity for every patient.
- Pharmacists should carefully assess the patient and obtain all information required to ascertain if any intervention or recommendation is needed.
- Drug related problem:

  -Identify available therapeutic alternatives; and weigh the risks and benefits of each alternative to achieve best therapy outcome.

  -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.

  -Address safety concerns regarding opioid use (Refer Appendix VIII).

  -Emphasise on the non-pharmacological therapy options that may help in managing pain and drug related problems.

  -Take a holistic approach to patient care (e.g. consider the patient's medical, social, and financial needs) in establishing action plans.

J. Pharmacist's recommendations

- Recommendation should be done based on:

  -Pain score, pain aggravating and relieving factors

  -Achievement of desired outcome including patients' quality of life.

  -Drugs related problems such as side effect, sub-therapeutic, interaction with other drugs or food.

  -Access and availability of pain medicine and related policy at facility.
- Pharmacists should actively collaborate with other healthcare providers to form an individualised pain care plan, including non-pharmacological approach.
- All interventions should be discussed with the clinician for further action to achieve the desired outcome.

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

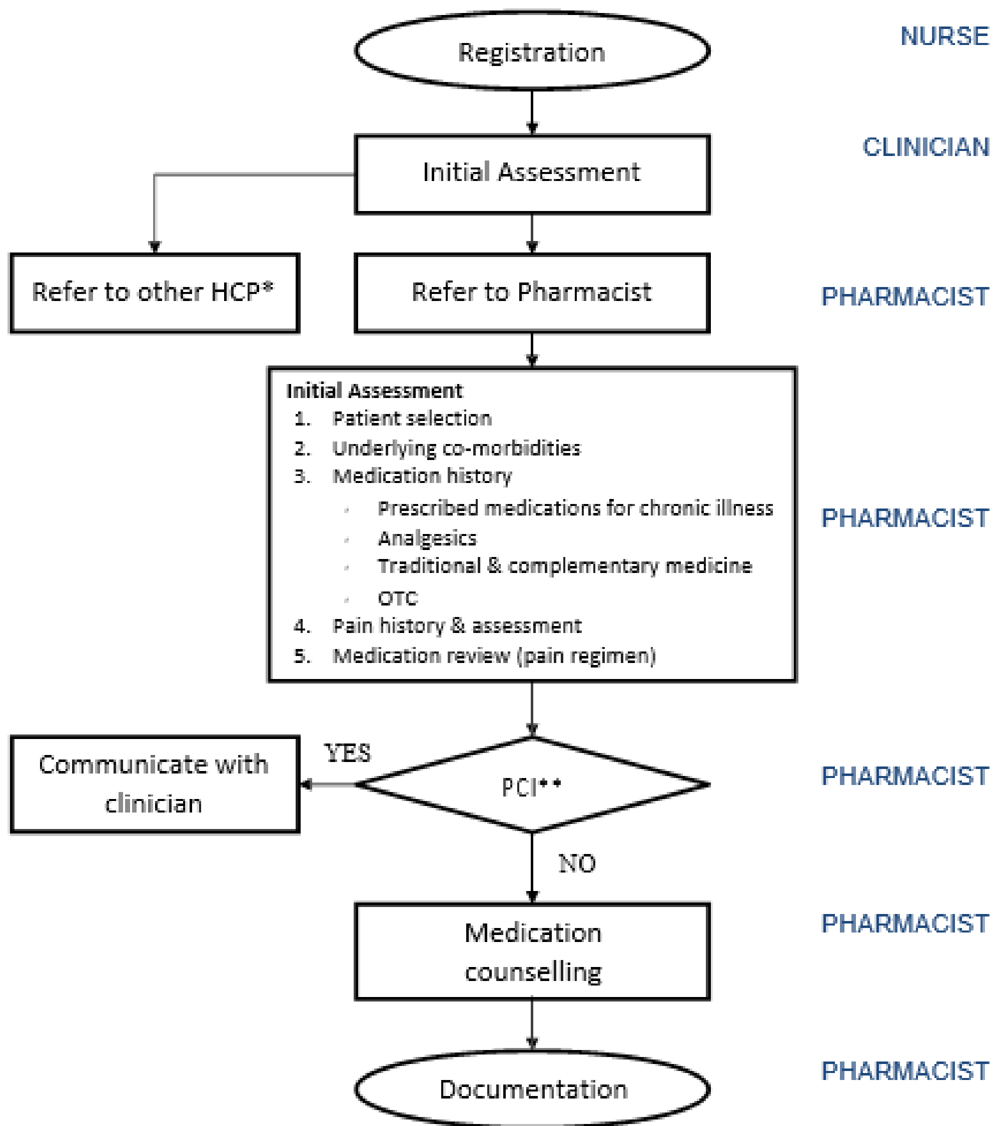
K. Discharge criteria

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

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

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

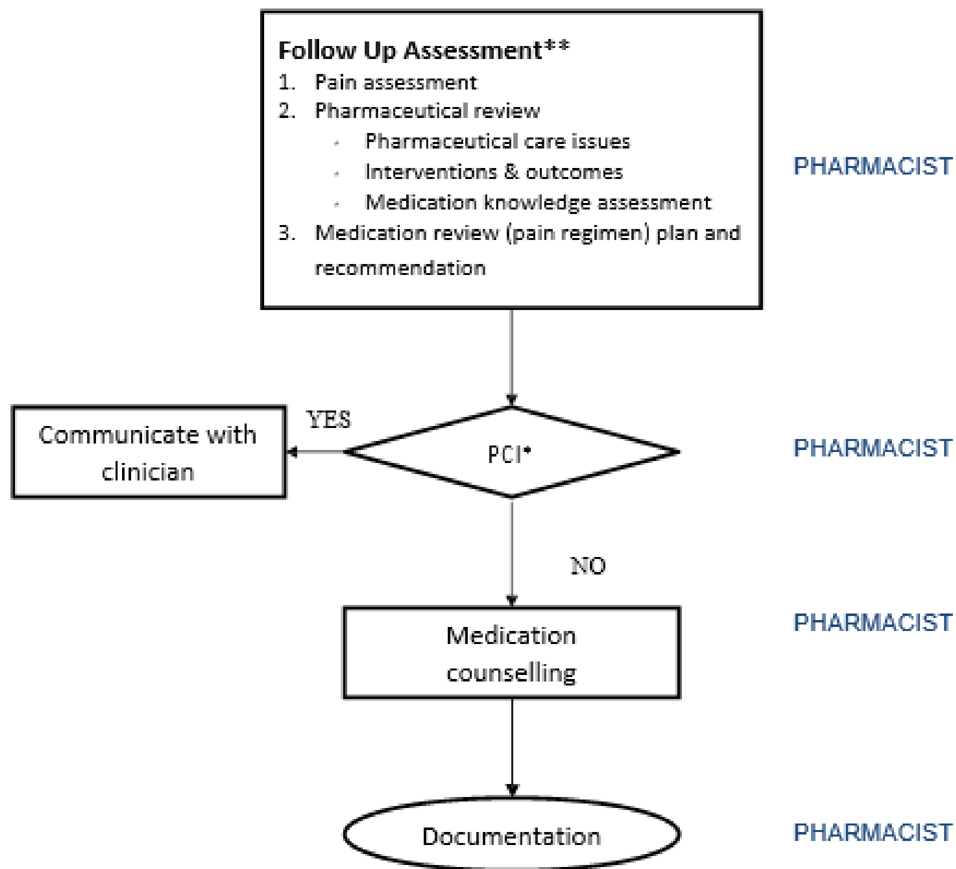
Pain MTM Clinic Workflow: Initial Visit



** HCP – Healthcare Provider*
***PCI – Pharmaceutical Care Issue*

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

Pain MTM Clinic Workflow: Subsequent Visits



**PCI – Pharmaceutical Care Issue*

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

3.2.2. Pre-Anaesthetic Medication Therapy Management Clinic

Pre-Anaesthetic clinic is an outpatient clinic that carries out pre-operative assessment of patients scheduled for elective surgery either inpatient (including day of surgery admission) or day care surgery. It serves to prepare and educate patient about expectation of pain following surgery, identify associated medical illness and anaesthetic risks. Some patients for day care surgery 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.

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

A. Scope of Service

Pharmacist will conduct medication history taking and medication review, patient counselling and education about the use of medicines pre and post-surgery.

B. Location of service

Preferably but not limited to Pre-Anaesthesic Clinic area during clinic day.

C. Manpower Requirement

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

D. Procedures

- Patient selection:
  -Patients who are referred to pharmacist for medication assessment.
- Assessment by the pharmacist including history of underlying co-morbidities and related medications.
- Assessment on medication history conducted using Medication History Assessment Form (Appendix VI).
  -Any previous medications given.
  -Any traditional or complementary medications.
  -Any over the counter (OTC) products.
- Patients' allergy status
- Relevant laboratory values (if applicable).
- Medication review (pre-surgery)

D. Procedures (con't)

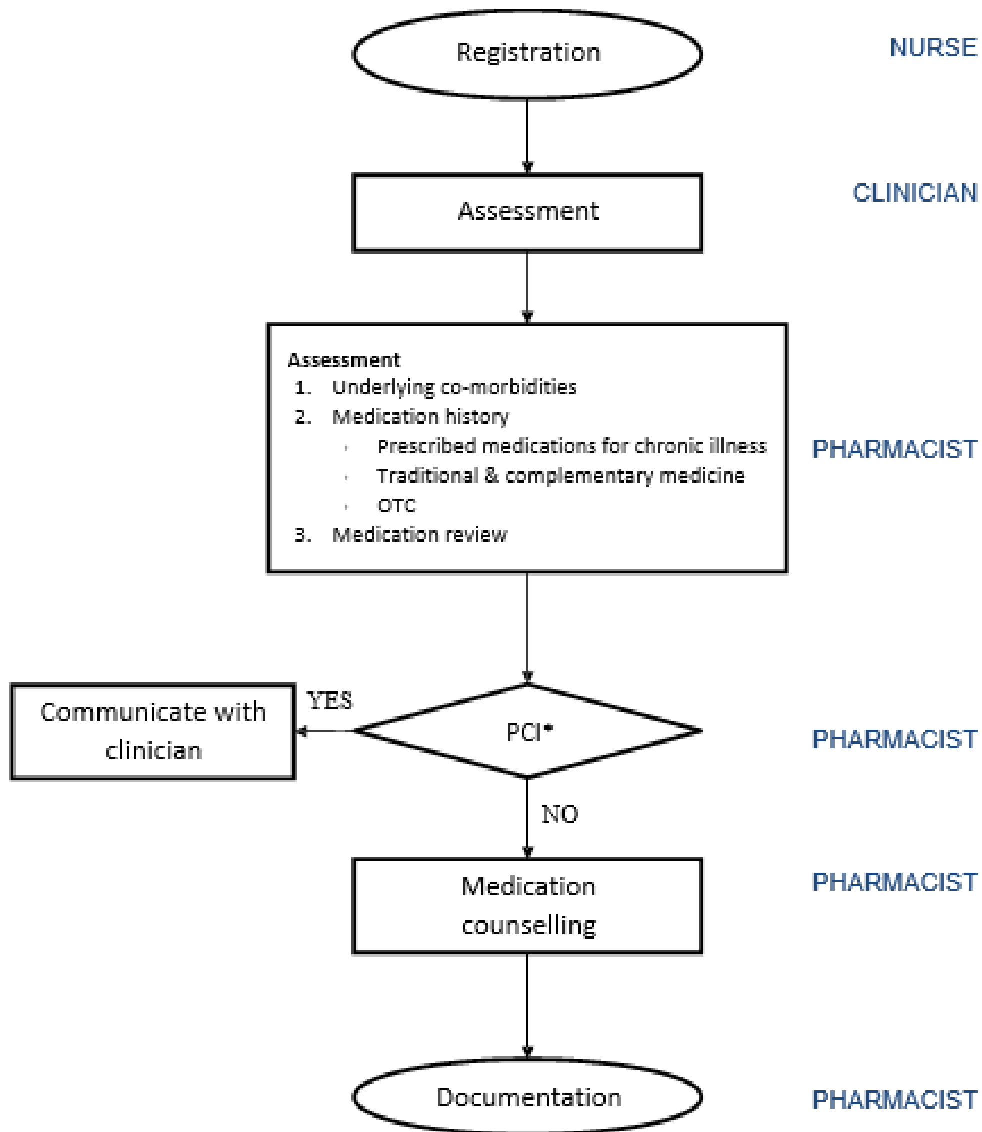
- Medication review and patient counselling include:
  -Medication to be withheld prior to surgical procedure.
  -Treatment goals of pain medication regimen.
  -Name of pain medication will be initiated after surgery.
  -Indication, dosage, frequency and duration of each medication.
  -Self-adjustment of pain medication regimen by patient.
  -Common side effects of each medication and how to manage them.
  -Precautions and contraindications.
  -Emphasise on the importance of around the clock vs. breakthrough dosage administration timing.
  -Action to be taken for a missed dose, or when pain is not controlled.
  -Communicate with the clinician if any intervention is required.

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).

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

Pre-Anaesthetic MTM Clinic Workflow



PCI – Pharmaceutical Care Issue

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

3.3 INPATIENT SERVICES

3.3.1. 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 Pharmacotherapy Services activities. Inpatient Pain Medication Counselling can be done by any pharmacist during bedside or discharge counselling.

A. Scope of Service

- The service shall be provided to patients who will be reviewed during APS/ Multidisciplinary Pain Team Round on working days.
- 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 but not limited to pharmacist who are trained in pain pharmacotherapy services).
- Ward pharmacist are advisable to be part of the team.

C. Procedures

The following activities will be done during ward round:

- Medication history taking by using Medication History Assessment Form (Appendix VI).
- Case clerking by using Pharmacotherapy Review Form (Appendix VIII).
- Active participation during ward rounds by identifying PCI and perform appropriate intervention.
- These activities should be documented in Clinical Pharmacy Report Form (Appendix IX).
- Providing medication counselling (Refer Garis Panduan Kaunseling Ubat- ubatan Edisi Ketiga, 2019 and Garis Panduan Pelaksanaan Kaunseling Ubat-Ubatan Secara Maya / Virtual, 2021).
- Referring discharged patients who require follow up counselling by using Patient Referral Note (Appendix X).

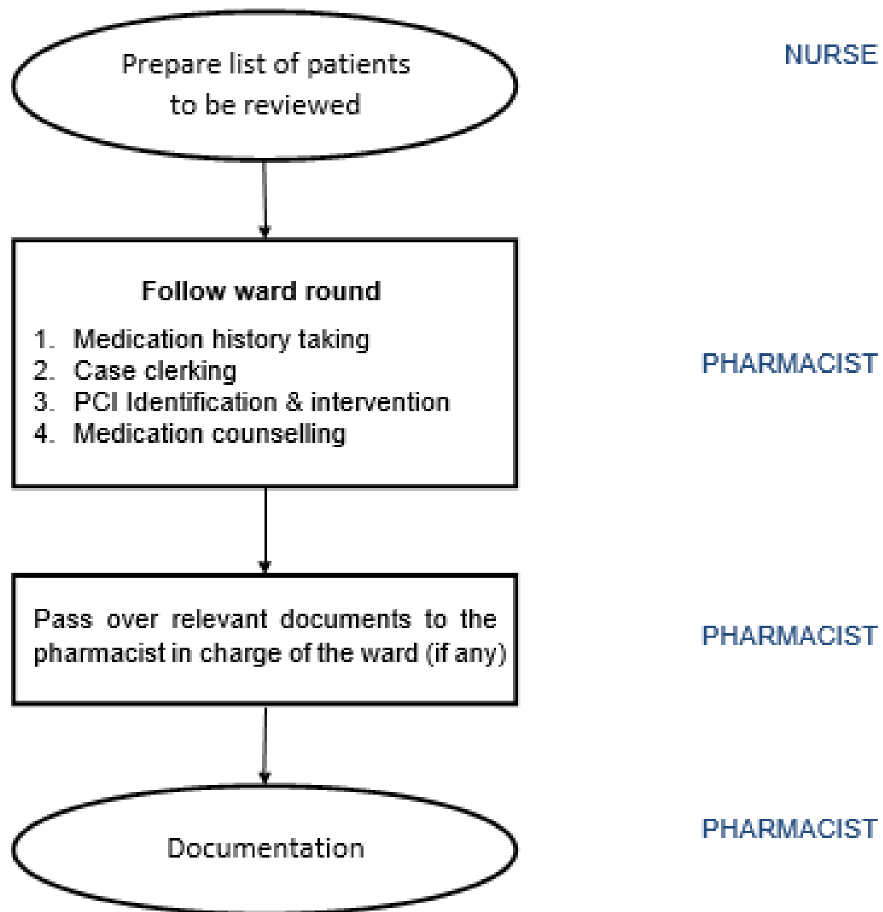
All related documents should be passed over to ward pharmacist if applicable.

3.3.2. IV Admixture Service

In hospital with clean room facility, sterile pharmacy manufacturing unit provides IV Admixture service to prepare common injectables for pain management such as Patient-Controlled Analgesia (PCA) Morphine 1mg/ml as well as some Epidural cocktails such as a combination of ropivacaine and fentanyl or bupivacaine with fentanyl. The preparation of these injectables is supported by valid stability data to ensure the safety and efficacy of the products.

CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

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



CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

3.4 PAIN MEDICATION COUNSELLING

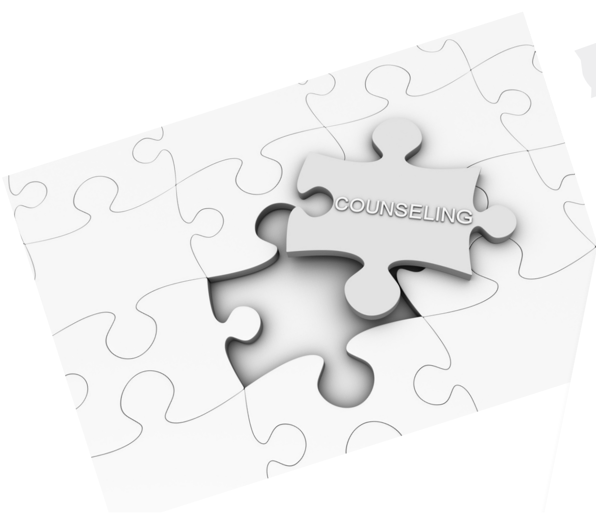
3.4.1 Ambulatory, Inpatient and Community

This service is applicable to ambulatory, inpatient and community settings.

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

- Patients who are newly started with analgesic and are referred by prescribers.
- Patients on long term analgesics.
- Patients with complex analgesic regimen or who require special instruction (e.g. SNRI, anticonvulsants, opioids, etc.).
- Patients with multiple comorbidities requiring close monitoring.
- Patients from special population (e.g.: geriatric, paediatric, obstetric)
- Patients with poor understanding on the treatment.
- Patients with poor compliance towards pain medications
- Patients referred from other healthcare facilities through Patient Referral Note (Appendix X).

For documentation and workflow, please refer to Garis Panduan Kaunseling Ubat-Ubatan Edisi Ketiga (2019) and Garis Panduan Pelaksanaan Kaunseling Ubat-ubatan Secara Maya/ Virtual (2021), published by Pharmaceutical Services Programme, MOH. Medication counselling checklist is attached as per Appendix III in this guideline.

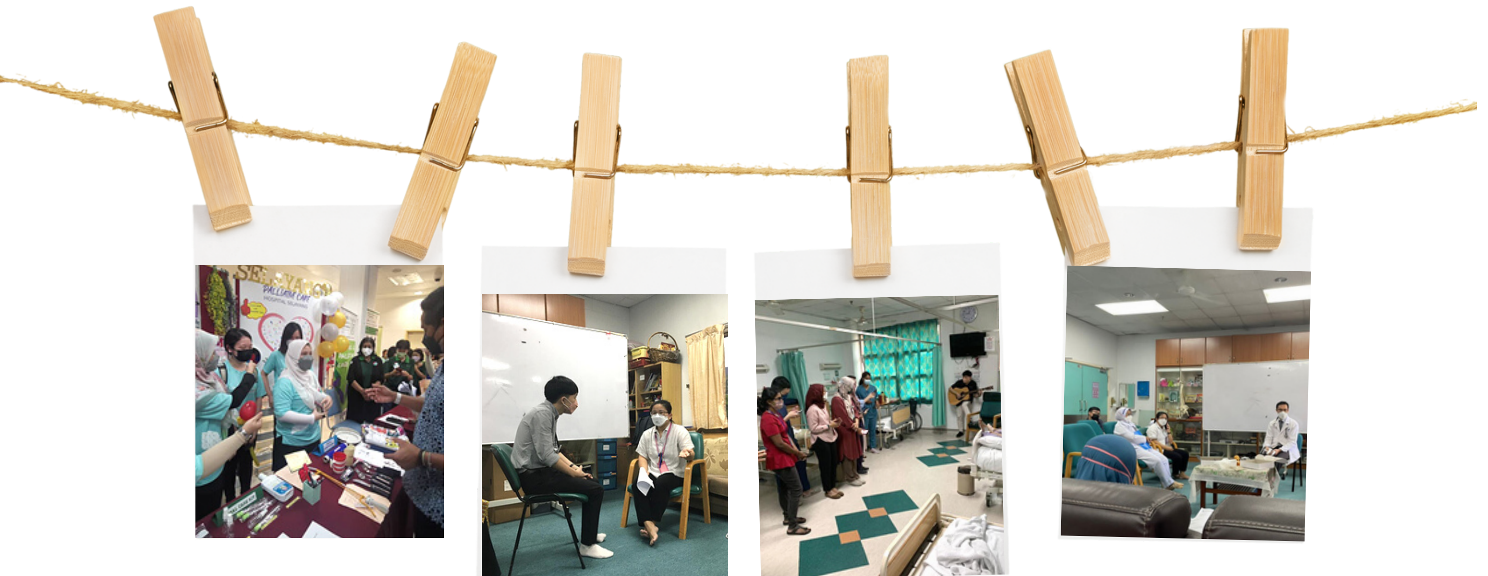


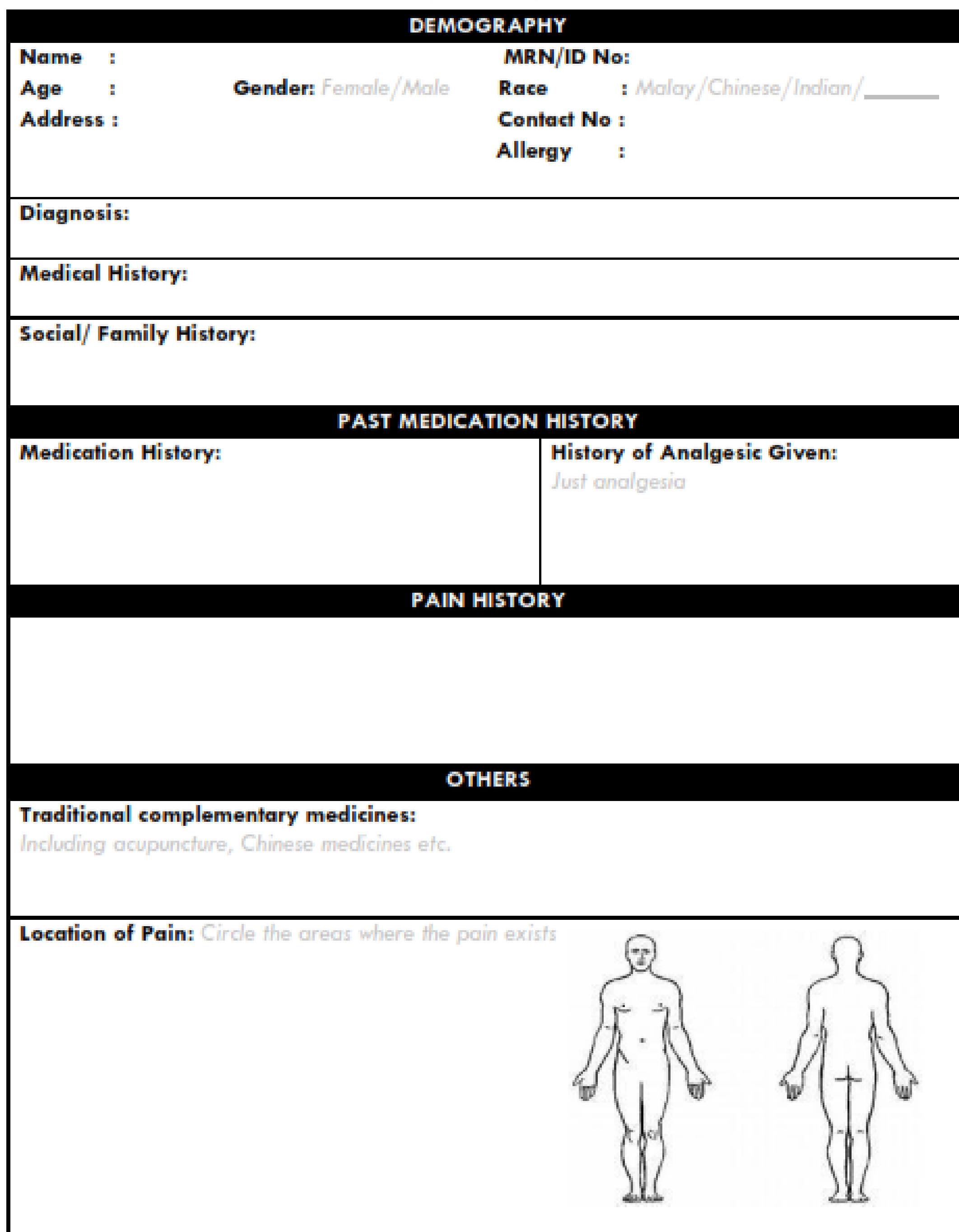
CHAPTER 3: PAIN PHARMACOTHERAPY SERVICES PROVIDED BY PHARMACY

3.4.2 Palliative Care

Pharmacists play an important role in pain management in the palliative setting. Pharmacist involvement in multidisciplinary palliative care team contributed to the reduction of inappropriate use of analgesics and improved pain control.

Pharmacist may refer to Handbook of Palliative Medicine in Malaysia (2015) for further information.





Appendix I-a

Ref No: ____________
Date : ____________

PAIN MEDICATION THERAPY MANAGEMENT: PHARMACY ASSESSMENT FORM

(Initial Visit)

DEMOGRAPHY

Name : **MRN/ID No:**
Age : **Gender:** Female/Male **Race :** Malay/Chinese/Indian/______
Address : **Contact No :**
Allergy :

Diagnosis:

Medical History:

Social/ Family History:

PAST MEDICATION HISTORY

Medication History:	History of Analgesic Given: Just analgesia

PAIN HISTORY

OTHERS

Traditional complementary medicines:
Including acupuncture, Chinese medicines etc.

Location of Pain: Circle the areas where the pain exists

Appendix I-b

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) (3-15yrs)	 34-104 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:

Appendix II

PAIN EVALUATION & MEDICATION REVIEW LIST

(Subsequent Visit)

Date:	Visit No.:	Date:	Visit No.:
Chief Complain:		Chief Complain:	

Pain Score			Pain Score		
	Max			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

Appendix III

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.		

Appendix IV-a

MEDICATION COUNSELLING POINTS & MONITORING

Non-opioid Analgesic:

Name of Medication	Potential Adverse Effects	Counselling Points	Monitoring
1. **Paracetamol**	• Hepatic – increased bilirubin and alkaline. • 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 2 g/day of paracetamol if they cannot abstain from drinking.	• 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. • Increased risk of stroke and myocardial infarction.	• 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.	• Careful monitoring of side effects. • Renal function test • INR
3. **Selective COX-2 Inhibitors: Celecoxib, Etoricoxib, Parecoxib.**	• GI disorders • COX-2 inhibitors can also lead to renal impairment and adverse cardiovascular effects, particularly with long term use.	• To be taken after food	• Careful monitoring of side effects.

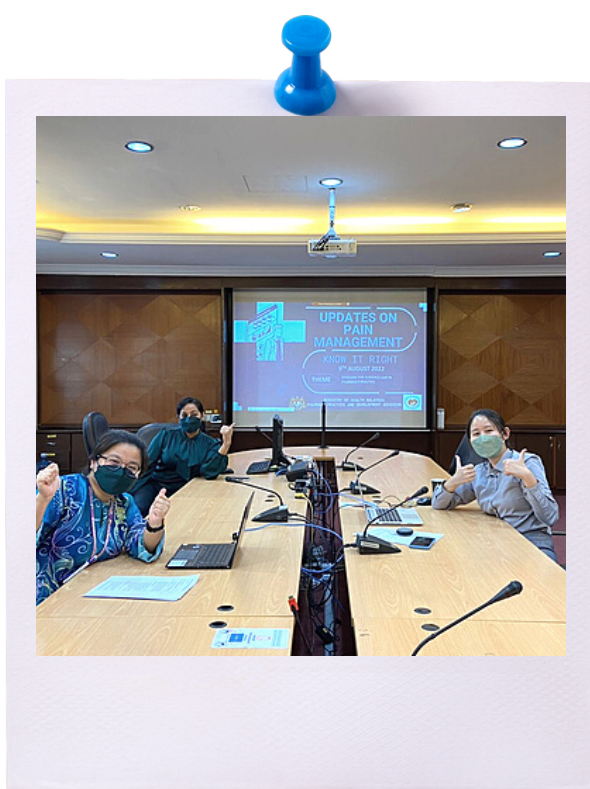
Our goal:
Raising the awareness of effective pain management across the continuum of care.

APPENDICES

Appendix IV-b

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.



Updates on Pain Management, Know it Right Webinar was successfully held on 9th August 2022 with the participation of 208 MOH pharmacists from various settings.

APPENDICES

Appendix IV-c

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. • Do not handle machinery activity due to reduced level of consciousness.	• Liver Function Test for patients with hepatic impairments. • 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.

Revision of Pain Free Programme Training of Trainers (TOT) Module Meeting from 29th June 2022 until 1st July 2022.

Appendix IV-d

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 transdermal patch	- 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. - 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.	- Close monitoring for signs of respiratory depression. - Monitoring for signs of misuse, tolerance, or addiction.

Clinical Pharmacy Working Committee (Pain Management Specialisation) Meeting on 6th and 7th September 2022.

APPENDICES

Appendix IV-e

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).	• 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.	• 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.	• Do not handle machinery activity due to reduced level of consciousness.	• Careful monitoring of side effects.

Revision of Pain Free Programme Manual on 16th March 2022 until 18th March 2022.

Appendix IV-f

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.	- 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. - Renal toxicity.	- Calcium and vitamin D supplements may be considered if dietary intake is insufficient.	- Calcium level monitoring. - Renal function test.
6. **Corticosteroids: Dexamethasone, Prednisolone.**	- Hyperglycaemia, increased appetite, weight gain, oedema, cushingoid habitus, dyspepsia, delirium, insomnia, agitation.	- To be taken after food.	- Blood glucose level
7. **Anticholinergic: Hyoscine Butylbromide.**	- Somnolence, dizziness, hypotension, dry mouth.	- May be taken before food to increase absorption.	

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

Coming together is a beginning,
Keeping together is a progress,
Working together is a success.
- Henry Ford

Appendix V-a

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 Obsessive Compulsive Disorder Bipolar Schizophrenia	[ ]	2	2
	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)

Appendix V-b

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 be aroused or wakened up, 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.

Appendix V-c

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

   a) Addiction:

   - Addiction is defined as a chronic, relapsing disorder characterised by compulsive drug seeking and use despite adverse consequences. It is considered a brain disorder as it involves functional changes to brain circuits involved in reward, stress and self-control.[29]

   - 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/ Physical Dependence:

   - 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.

Appendix V-d

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).

Appendix VI

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 WITHOLD	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

Appendix VII

Pre-Anaesthetic Counselling: Medication Instruction for Patient

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

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:**
	Compliance Evaluation:	
Diagnosis/Surgical Procedure:		

BP:	RR:
PR:	T:
RBS:	SpO2:

Social/Family History	
Smoking	
Alcohol	
Drug Abuse	
Pregnant	

B. LABORATORY INVESTIGATION

		Normal Range \ Date	1	2	3	4	5	6	7	8	9	10
FBC	TWBC	4–11 x10^9/L										
	Hb	11.5-16.5 g/100mL										
	Platelet	150-400 x10^9/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										
	PO_4^-	0.8-1.45 mmol/L										
LFT	Albumin	35 – 50 g/L										
	T.Bilirubin	<20 umol/L										
	T.Protein	66 – 87 g/L										
	ALP	53 – 141 u/L										
	ALT	<32 u/L										
Coag.	PT	10-13.5 sec										
	APTT	26 – 42 sec										
	INR	<1.5										
CE	CK	24 – 195 u/l										
	LDH	0 – 248 u/l										
	AST	<37 u/l										
ABG	pH	7.35-7.45										
	pCO2	35-45mmHg										
	pO2	72-100mmHg										
	HCO3	22-29mmol/L										
	O2 sat	90-95%										
Others	RBS	< 11 mmol/L										
I/O	Input											
	Output											
	Balance											

C&S	Date (Sampling)	Date (Result)	Source/Sample	Microorganism	Sensitivity	Resistance

Appendix VIII -b

C. WARD MEDICATION

	Drug/Regimen	Start Date	Stop Date	Indication/ Reason for Change	Reconciliation Note S-Stopped / W-Withold/ 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:

Appendix IX –a

CP3

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		

Appendix IX -b

C: DESCRIPTION OF REQUESTS / INTERVENTIONS ENCOUNTERED

D: FOLLOW-UP REQUIRED

NO.	FOLLOW-UP	CHECKLIST	SIGN

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

Pin. 1/13

Appendix X

NOTA RUJUKAN PESAKIT
Jabatan Farmasi, Hospital/ Klinik Kesihatan ___________________

Kepada: Pegawai Perubatan/ Pegawai Farmasi/ Penolong Pegawai Perubatan/ Jururawat
Hospital/Klinik Kesihatan ______________________________

PER: PESAKIT: ______________________ ______________ ________________

NAMA **MRN** **NO. K/P**

Pesakit ini **TELAH/BELUM DIBERI KAUNSELING UBAT-UBATAN** untuk dinilai tahap kefahaman/kepatuhan terhadap terapi ubat yang dipreskripsikan. Diharap pihak tuan/puan dapat memberi kaunseling dan penilaian susulan yang diperlukan untuk meningkatkan keberkesanan rawatan.

2. DIAGNOSIS: ____

3. SENARAI UBAT TERKINI:

NAMA UBAT/DOS DAN FREKUENSI/JANGKAMASA RAWATAN

4. PENILAIAN KEFAHAMAN & KEPATUHAN TERHADAP TERAPI UBAT (tidak berkenaan jika pesakit belum dikaunsel)
   a. Pesakit telah dikaunsel dan faham tentang ubat/alat bantuan pengubatan yang dipreskripsikan — Ya ☐ Tidak ☐
   b. Tahap kepatuhan terhadap ubat-ubatan — Memuaskan ☐ Tidak memuaskan ☐
   c. Alat bantuan kepatuhan — *Pill box* ☐ Risalah ubat ☐ Lain-lain ☐ Tiada ☐

5. TINDAKAN SUSULAN YANG DIPERLUKAN *(Sila tanda (√) di kotak yang disediakan)*

☐ Kaunseling ubat-ubatan dan alat bantuan pengubatan yang dipreskripsikan
☐ Menilai kepatuhan dan kefahaman terhadap terapi ubat yang dipreskripsikan
☐ Pemonitoran terapeutik : (sila nyatakan) ________________________
☐ Isu penyimpanan ubat-ubatan
☐ Lain-lain: (sila nyatakan) ____

Sekian, terima kasih.

____
Tandatangan dan Cop Pegawai Farmasi
No. Tel. :
Tarikh:

(Salinan asal: untuk dihantar kepada fasiliti yang dirujuk)
(Salinan pendua: untuk simpanan Jabatan Farmasi)

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