



# **Pharmacy Information System (PhIS) and Clinic Pharmacy System (CPS)**

---

## **User Manual Parenteral Nutrition (PN) Dispensing**

<b>Version</b>	<b>: 13<sup>th</sup> Edition</b>
<b>Document ID</b>	<b>: U. MANUAL_PN_DISPENSING</b>



**CONFIDENTIAL COPYRIGHTED MATERIAL** – *The information includes all concepts, comments, recommendations, and material, contained herein shall remain the property of Pharmacy Information System & Clinic Pharmacy System (PhIS & CPS) Project. No portion of this document shall be disclosed, duplicated or used in whole or in part of any purpose other than the purpose of the Pharmacy Information System & Clinic Pharmacy System (PhIS & CPS) Project execution only.*

*Reference ID : U. MANUAL\_PN\_DISPENSING-13<sup>th</sup> E*

*Application reference: PhIS & CPS v2.6.1*



## Table of Contents

1.0	Introduction .....	1
1.1	Overview of Phis .....	1
1.2	Purpose and Objectives .....	1
1.3	Organised Sections .....	1
2.0	Application Standard Features .....	2
2.0	PhIS Legend .....	2
3.0	Parenteral Nutrition (PN) Dispensing .....	4
	Overview .....	4
	User Group .....	4
	Functional Diagram .....	4
	Functional Description .....	4
3.1	Parenteral Nutrition (PN) Verification.....	5
3.1.1	Verify Parenteral Nutrition (PN) Order.....	5
3.1.2	Intervention Parenteral Nutrition (PN) Order.....	9
3.1.3	Hold/Resume Parenteral Nutrition (PN) Order.....	17
3.2	Parenteral Nutrition (PN) Preparation .....	21
3.2.1	Preparation for Commercial.....	21
3.2.2	Preparation for Commercial Add Addictive.....	30
3.2.3	Preparation for Compounded Bag.....	42
3.3	Parenteral Nutrition (PN) Dispensing.....	61
3.4	Release/Discard Batch .....	64
3.5	Outsource.....	68
4.0	Acronyms .....	71
5.0	Links to Clinical Modules.....	71



## 1.0 Introduction

### 1.1 Overview of Phis

Pharmacy Information System or better known as PhIS, is a complete and comprehensive system that integrates pharmacy related services geared towards pharmacy excellence. PhIS implementation would transform most of current manual process to electronic system would benefit facility end user in the health care sector.

There are 12 modules to assist services delivery by the health care sector which comprises of:

1. Order Management
2. Inpatient Pharmacy
3. Outpatient Pharmacy
4. Medication Counselling
5. Ward Pharmacy
6. Pharmacy Inventory
7. Manufacturing of Cytotoxic Drug Reconstitution, Parenteral Nutrition, IV Admixture & Eye Drop , Radiopharmaceuticals and Extemporaneous
8. Adverse Drug Reaction & Drug Allergic (ADR & DAC)
9. Clinical Pharmacokinetics Services (TDM)
10. Drug Information & Consumer Education (DICE)
11. Medication Therapy Adherence Clinic (MTAC)
12. Data Mining (PhARM)

### 1.2 Purpose and Objectives

This user manual outlines the Parenteral Nutrition module and its key features/functionality. The primary objective is to help guide user through the process of completing PhIS application process.

User will understand the following activities in details:

- Parenteral Nutritional Verification
- Parenteral Nutritional Preparation
- Parenteral Nutritional Dispensing
- Hold / Resume Order
- Release / Discard Batch
- Outsource

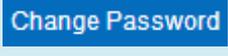
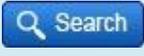
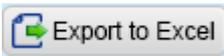
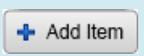
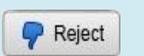
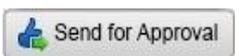
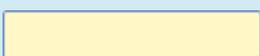
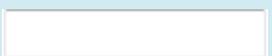
### 1.3 Organised Sections

These are the sections within this document:

- Section 1 : Introduction
- Section 2 : Application Standard Features
- Section 3 : Parenteral Nutrition Dispensing
- Section 4 : Acronyms
- Section 5 : Links to Clinical Modules

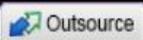
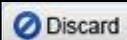
## 2.0 Application Standard Features

### 2.1 PhIS Legend

Standard Legend			
	Login to PhIS		Logout from PhIS
	Change Login Password		Reset Login Screen
	Expand Menu		Collapse Menu
	Display Home Tab		Expand Module
	Collapse Module		Close All Open Tabs
	Refresh Screen		Search Record
	Add/Create New Record		Show Help
	Print		Mandatory Field
	Calendar Icon		Search Icon
	Close Window		Radio Button
	Checkbox		Edit Record
	Cancel		Delete Record
	Save		Export and Open Report in Excel Format
	Add Item to the list		Delete Item from the list
	Request for Approval		Cancel the Request
	Approve Transaction		Reject Transaction
	Send for Approval		Dropdown Box
	Automatically Display/Retrieve Box		Empty Text Box



### Parenteral Nutrition Dispensing Module Legend

 Verify	Verification Prescription	 Prepare	Preparation Prescription
 Dispense	Dispensing	 Label	Edit and Print Label
 Outsource	Outsource Product	 Calculate	Calculate
 Worksheet	Generate Worksheet	 Release	Release Batch
 Discard	Discard Batch	 Search History	Search History

#### **Note**

To learn more about Login Information, kindly click [Login Information](#) module for descriptive steps.

### 3.0 Parenteral Nutrition (PN) Dispensing

#### Overview

The Parenteral Nutrition (PN) Dispensing module include implementing safe, organised and efficient drug-dispensing systems which essential for controlling costs and assuring that the medical prescription is safely followed as requested within the appropriate deadline. An appropriate dispensing system is an important ally for the prevention or reduction of medication errors by helping to minimize dispensing error opportunities in a pharmacy. At present, there are various types of dispensing systems for medical prescriptions within a hospital.

#### User Group

This module is intended for Authorized Pharmacist (subject to user assigned by the facility)

#### Functional Diagram

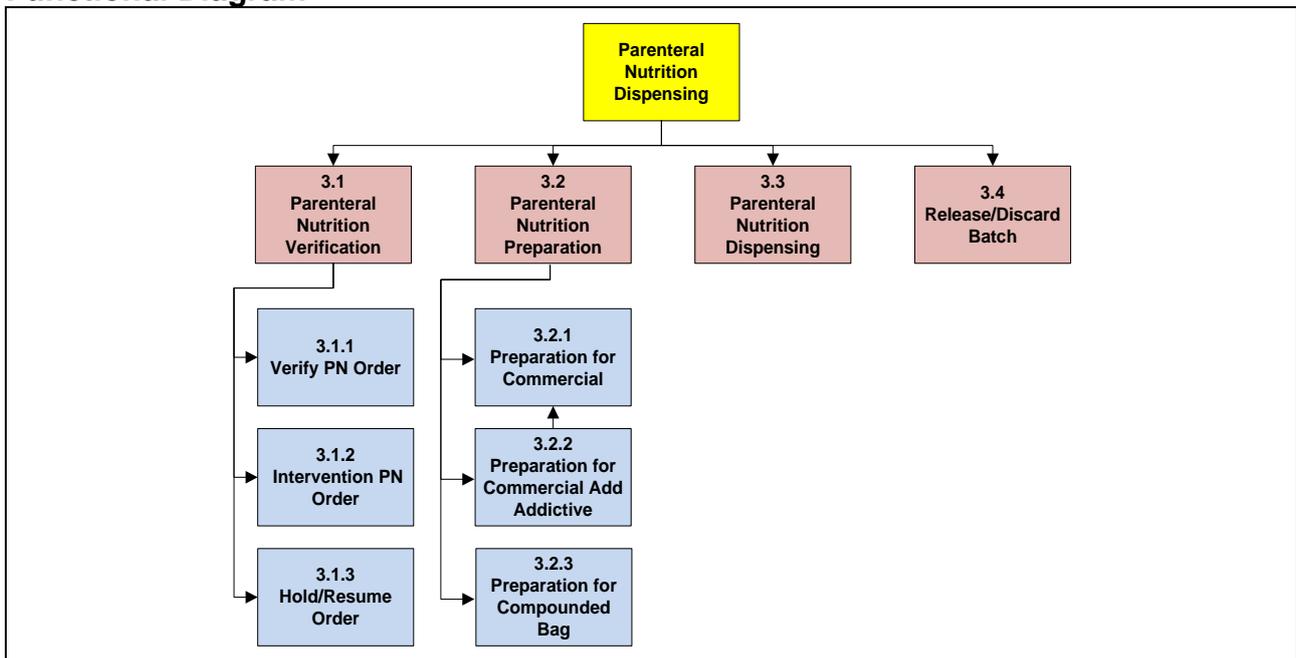


Figure 3.0-1

#### Functional Description

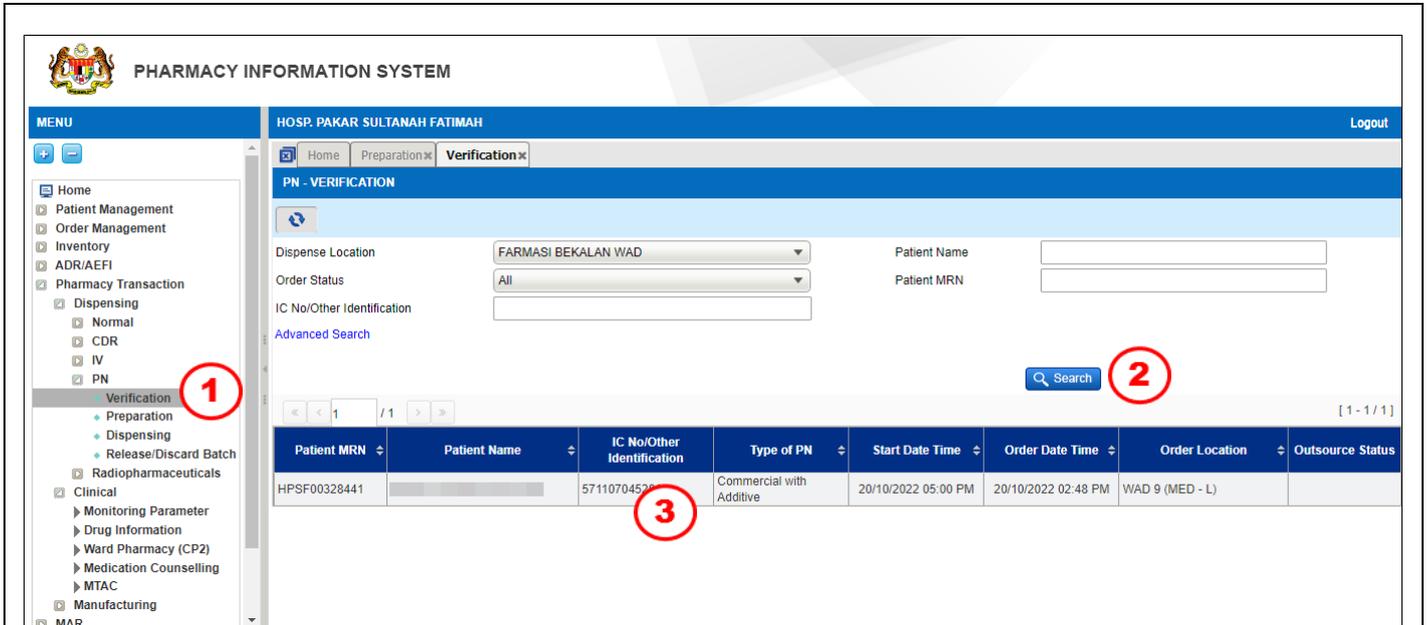
Parenteral Nutrition (PN) dispensing comprises of four (4) main functions:

- **Verification**  
Verification is for pharmacist to verify the prescriptions received from order management. This process is mandatory for all prescriptions receive – before the user can proceed with dispensing preparation
- **Preparation**  
The prescription and the drug preparation are made in the system that may integrate with inventory system. Access system data directly with no need to send files or manual drug labeling.
- **Dispensing**  
The prescription and the dispensing report are made in the system that may integrate with inventory system.
- **Release/Discard Batch**  
Allow the user to release/discard the drug reserved for the patient back into inventory. User need to release this drug in order for it to be available in the drug inventory list.

### 3.1 Parenteral Nutrition (PN) Verification

Verification is for pharmacist to verify the prescriptions received from order management. In this stage, user has an option to do an intervention and hold/resume function.

#### 3.1.1 Verify Parenteral Nutrition (PN) Order



The screenshot shows the PHARMACY INFORMATION SYSTEM (PHIS) interface. The left sidebar contains a menu with 'PN' highlighted (1). The main area shows the 'PN - VERIFICATION' section with search filters for 'Dispense Location' (FARMASI BEKALAN WAD), 'Order Status' (All), 'Patient Name', and 'Patient MRN'. A 'Search' button (2) is visible. Below the filters is a table with one row of data. The 'IC No/Other Identification' field in the table is highlighted (3).

Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location	Outsource Status
HPSF00328441		571110704528	Commercial with Additive	20/10/2022 05:00 PM	20/10/2022 02:48 PM	WAD 9 (MED - L)	

Figure 3.1.1-1 PN Verification Listing Page

#### STEP 1

Click on 'Pharmacy Transaction' menu follow by 'Dispensing' and click on 'PN Verification' sub-menu

#### Note

- Various search criteria is provided as below:
  - Dispense Location
  - Patient Name
  - Order Status
  - Patient MRN
- Click on the [Advanced Search](#) hyperlink for advance search.

#### STEP 2

Click on the [Search](#) button and system will display related order

#### Note

Search patient record based: -

Basic Search			
No	Field	Description	Remark
a	Dispense Location	Dispensing location. (It will list down all active dispense location)	Able to filter and search patient name by dispensing location
b	Order Status	Search by: All New Orders Outsourced Orders	Able to filter and search patient name by order status
c	Patient Name	Patient Name	Allow to search by full name or partial
d	Patient MRN	Patient Medical Record Number	Search option:



			Type the MRN either full or partial: <i>Example: HPSF00001234 or "1234"</i>
e	IC No/Other Identification	Patients Malaysian Identification card number or other identification details	Allow to search by patients identification details
<b>Advance Search</b>			
a	Order Location Type	Search by: - All - Clinic - Day Care - ER - Nursing Unit - Pharmacy	Able to filter and search patient name by order location type
b	Order Location	Current active visit Location	Able to filter and search patient name by all active visit location
c	Order Date From	Order confirmed date	Allow to search by start date of order created
d	Order Date To	Order confirmed date	Allow to search by selected range of orders created

**Table 3.1.1-1**

**STEP 3**

Double click on the record and PN Verification screen will be displayed as Figure 3.1.1-2

**Note**

Search result of patient record list will be displayed:

- Patient MRN
- Patient Name
- IC No/Other Identification
- Start Date Time
- Type of PN
- Outsource status
- Order Date Time
- Order Location

**PN VERIFICATION**

Age 32 Years 04 Months 09 Days Gender Female MRN HPSF00328368

Address Phone And Email Diagnosis Allergy: Need To Be Assessed Vital Sign

Height 170 cm Weight 71 kg BMI/BSA 24.6 / 1.83 m<sup>2</sup> (Last Updated : 30/12/2022 ) Nationality : Warganegara

Demographic | Medication Profile | Pharmacist Notes | Monitoring Parameter | Counseling History | Other Appointment | ADR/AEFI

Encounter No: 0001 Actual Admission Date: 30/12/2022 Attending Practitioner: Visit Location: WAD 3 Room No/Bed No: Rx No: Prescriber Dept:

**PHARMACY ORDER**

Order Type: PN Order By: [Redacted]  
Ward: WAD 3 Bed No: [Redacted]

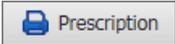
**PRESCRIPTION** PROCEED TO PREPARATION Verify

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Nutriflex Lipid Peri 1435kcal, 1.875L	1875 ml	1 bag	4 Details	Remarks	0 bag	ORDERED

**Figure 3.1.1-2 PN Verification**

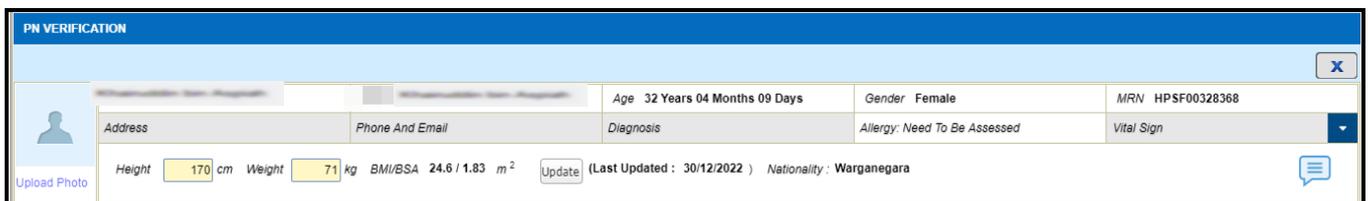
**Note**

**Patient's Banner**

- Patient's Banner display patient's profile as per Figure 3.1.1-3
- User only can view patient's height and weight.
- System will automatically calculate the BMI/BSA in m<sup>2</sup>.
- Click on the  button to view/print PN Prescription.

**Note**

By clicking  **PROCEED TO PREPARATION** radio button, system will be open preparation screen directly upon completing verification process



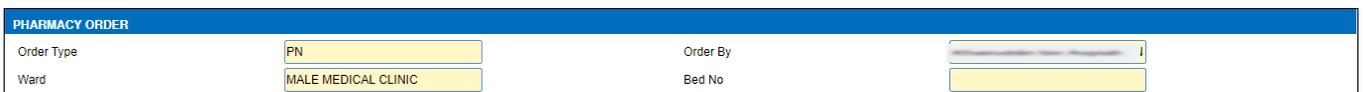
PN VERIFICATION

Age	32 Years 04 Months 09 Days	Gender	Female	MRN	HPSF00328368
Address	Phone And Email	Diagnosis	Allergy: Need To Be Assessed	Vital Sign	
Height	170 cm	Weight	71 kg	BMI/BSA	24.6 / 1.83 m <sup>2</sup>
Update (Last Updated : 30/12/2022 ) Nationality : Warganegara					

Figure 3.1.1-3 Patient's Banner

**Pharmacy Order**

Information of **Order Type, Order by, Ward and Bed No** will be displayed by the system as per Figure 3.1.1-4.

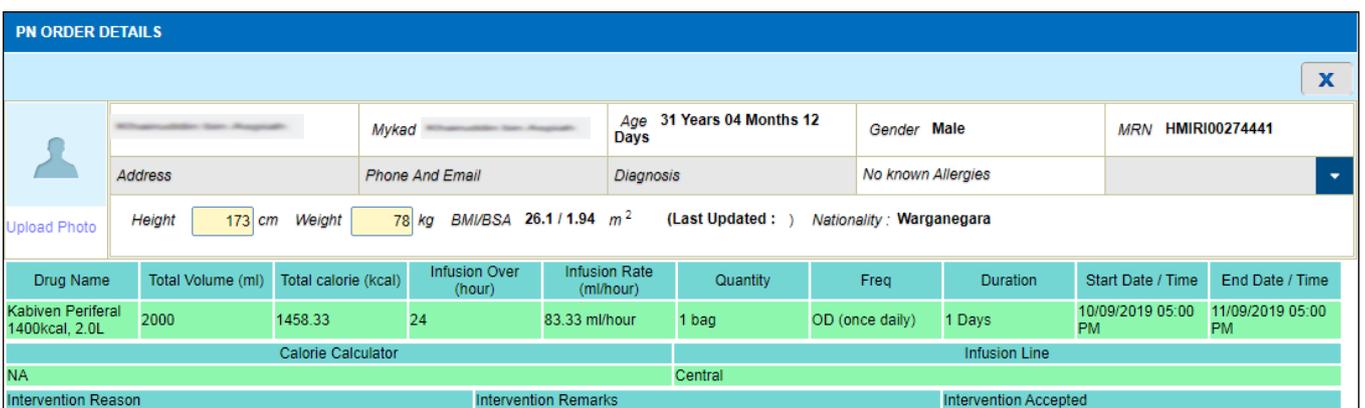


Order Type	PN	Order By	
Ward	MALE MEDICAL CLINIC	Bed No	

Figure 3.1.1-4 Pharmacy Order

**STEP 4**

Click on the  hyperlink to view the order details as per Figure 3.1.1-5



PN ORDER DETAILS

Age	31 Years 04 Months 12 Days	Gender	Male	MRN	HMIRI00274441
Address	Phone And Email	Diagnosis	No known Allergies		
Height	173 cm	Weight	78 kg	BMI/BSA	26.1 / 1.94 m <sup>2</sup>
(Last Updated : ) Nationality : Warganegara					

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Infusion Rate (ml/hour)	Quantity	Freq	Duration	Start Date / Time	End Date / Time
Kabiven Periferal 1400kcal, 2.0L	2000	1458.33	24	83.33 ml/hour	1 bag	OD (once daily)	1 Days	10/09/2019 05:00 PM	11/09/2019 05:00 PM
Calorie Calculator			Infusion Line						
NA			Central						
Intervention Reason			Intervention Remarks			Intervention Accepted			

Figure 3.1.1-5 PN Order Details

**STEP 5**

Click on the  button to verify PN order as per Figure 3.1.1-6



**PN VERIFICATION**

Mykad: [Redacted] Age: 64 Years 11 Months 13 Days Gender: Male MRN: HPSF00328441

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] Allergy: Need To Be Assessed Vital Sign: [Redacted]

Height: 180 cm Weight: 70 kg BMI/BSA: 21.6 / 1.87 m<sup>2</sup> Update (Last Updated: ) Nationality: Warganegara

Demographic | Medication Profile | Pharmacist Notes | Monitoring Parameter | Counselling History | Other Appointment |

Encounter No: 0001 Actual Admission Date: 12/09/2022 Attending Practitioner: [Redacted] Visit Location: WAD 9 (MED - L) Room No/Bed No: 12 Rx No: [Redacted] Prescriber Dept: [Redacted]

**PHARMACY ORDER**

Order Type: PN Order By: [Redacted]

Ward: WAD 9 (MED - L) Bed No: 12

**PRESCRIPTION** PROCEED TO PREPARATION Verify

[1 - 1 / 1]

Drug	Volume	Order Qty	Order Details	Remarks	Status
Nutriflex Lipid Peri 1435kcal,1.875L with Additive	1875 ml	1 bag	Details	Remarks	ORDERED

Figure 3.1.1-6 PN Verification

**Note**

- User allowed to perform **Intervention** and **Hold/Resume Order** at verification stage.
- Upon verifying order status will be changed to Verified.
- Proceed to Preparation function will allow user to advance to the next screen for each patient record.



### 3.1.2 Intervention Parenteral Nutrition (PN) Order

**PN VERIFICATION**

Age: 64 Years 11 Months 13 Days | Gender: Male | MRN: HPSF00328441

Address: | Phone And Email: | Diagnosis: | Allergy: Need To Be Assessed | Vital Sign: [Dropdown]

Height: 180 cm | Weight: 70 kg | BMI/BSA: 21.6 / 1.87 m<sup>2</sup> | Update (Last Updated: ) | Nationality: Warganegara

Encounter No: 0001 | Actual Admission Date: 12/09/2022 | Attending Practitioner: | Visit Location: WAD 9 (MED - L) | Room No/Bed No: 12 | Rx No: | Prescriber Dept: |

**PHARMACY ORDER**

Order Type: PN | Order By: [Dropdown]  
Ward: WAD 9 (MED - L) | Bed No: 12

**PRESCRIPTION** PROCEED TO PREPARATION Verify

Drug	Volume	Order Qty	Order Details	Remarks	Status
Nutriflex 1.0 kcal, 1.875L with Additive	1875 ml	1 bag	<a href="#">Details</a>	<a href="#">Remarks</a>	ORDERED

Dropdown menu options: Intervention (highlighted with a red circle and '1'), Hold Order

Figure 3.1.2-1 PN Verification

**Note**

To proceed with Intervention PN Order, repeat **Step 1 to 3** from section 3.1.1 Verify PN Order.

**STEP 1**

Right click on the [Dropdown] button and select **Intervention** function and Intervention screen will be displayed as Figure 3.1.2-2

2
PN INTERVENTION ORDER

History Confirm Refresh X

INTERVENTION REASON

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
<input type="checkbox"/>	Authenticity		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Contraindication		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Drug Interaction		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Dose		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Drug		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>

MODIFY ORDER

Type of PN:  Commercial / MOH Pre mix(Std. Soln)  Compounded

Kabiven Periferal 1400kcal, 2.0L  Add Additive

Body weight type:  Actual  Ideal  Adjusted    Body weight: 78 kg

ADMINISTRATION INFO

<p>Volume: <span style="border: 1px solid gray; padding: 2px;">2000</span> ml</p> <p>Frequency: <span style="border: 1px solid gray; padding: 2px;">OD (once daily)</span></p> <p>Infusion Over: <span style="border: 1px solid gray; padding: 2px;">24</span> hours</p> <p>Start Date/Time: <span style="border: 1px solid gray; padding: 2px;">10/09/2019 05:00 PM</span></p> <p>End Date/Time: <span style="border: 1px solid gray; padding: 2px;">11/09/2019 05:00 PM</span></p>	<p>Indication for PN: <span style="border: 1px solid gray; padding: 2px;">Major trauma and burns</span></p> <p>Infusion Line: <span style="border: 1px solid gray; padding: 2px;">Central</span></p> <p>Order Quantity: <span style="border: 1px solid gray; padding: 2px;">1</span> bag</p> <p>Duration: <span style="border: 1px solid gray; padding: 2px;">1</span> Days</p> <p>Dispense Location: <span style="border: 1px solid gray; padding: 2px;">PHARMACY OUTPATIENT</span></p> <p>Remarks: <div style="border: 1px solid gray; height: 20px; width: 100%;"></div></p>
--	---

PRESCRIPTION

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start Date/Time	End Date/Time
Kabiven Periferal 1400kcal, 2.0L	2000	1458.33	24	1 bag	OD (once daily)	1 Days	10/09/2019 05:00 PM	11/09/2019 05:00 PM
Calorie Calculator			Infusion Line					
NA			Central					

Figure 3.1.2-2 PN Intervention Order

**Note**

- PN Intervention Order screen include four sections:
  - a) Intervention Reason
  - b) Modify Order
  - c) Administration Information
  - d) Prescription
- Click on History button to view Intervention Reason History Listing screen.
- Enter **Remarks** field if applicable.

**STEP 2**

Click on the  button to save record as per Figure 3.1.2-2

**Note**

**Commercial PN type Intervention**

**PN INTERVENTION ORDER**

History Confirm Refresh Close

**INTERVENTION REASON**

[ 1 - 12 / 12 ]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
<input type="checkbox"/>	Inappropriate Frequency		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Incompatibility		<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/>	Others	Test	<input checked="" type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Polypharmacy		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Suggest to Monitor Vital Signs/Lab Result		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Wrong Patient		<input type="radio"/>	<input type="radio"/>

**MODIFY ORDER**

Type of PN:  Commercial / MOH Pre mix(Std. Soln)  Compounded

Add Additive
 Body weight type:  Actual  Ideal  Adjusted
Body weight:  kg

**ADMINISTRATION INFO**

<p>Volume: <input type="text" value="2000"/> ml</p> <p>Frequency: <input type="text" value="OD (once daily)"/></p> <p>Infusion Over: <input type="text" value="24"/> hours</p> <p>Start Date/Time: <input type="text" value="10/09/2019 05:00 PM"/></p> <p>End Date/Time: <input type="text" value="11/09/2019 05:00 PM"/></p>	<p>Indication for PN: <input type="text" value="Major trauma and burns"/></p> <p>Infusion Line: <input type="text" value="Central"/></p> <p>Order Quantity: <input type="text" value="1"/> bag</p> <p>Duration: <input type="text" value="1"/> Days</p> <p>Dispense Location: <input type="text" value="PHARMACY OUTPATIENT"/></p> <p>Remarks: <input type="text"/></p>
--	---

**PRESCRIPTION**

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start Date/Time	End Date/Time
Kabiven Periferal 1400kcal, 2.0L	2000	1458.33	24	1 bag	OD (once daily)	1 Days	10/09/2019 05:00 PM	11/09/2019 05:00 PM
<b>Calorie Calculator</b>				<b>Infusion Line</b>				
NA				Central				

**Figure 3.1.2-3 PN Intervention Order**

**Note**

- User able to **Modify Order, Administration Information and Prescription** section will display as per Figure 3.1.2-3.
- Field that can be edited in Administration Information as below:
  - Volume
  - Frequency
  - Infusion Over
  - Start Date/Time
  - Indication for PN
  - Infusion Line
  - Duration
  - Remarks
- Click on the  button to update back prescription details.
- User able to insert intervention reason as shown in Figure 3.1.2-4

PN INTERVENTION ORDER							
				History	Confirm		X
INTERVENTION REASON							
<input type="checkbox"/> < < 1 / 1 > >				[ 1 - 12 / 12 ]			
	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted			
<input type="checkbox"/>	Authenticity		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Contraindication		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Drug Interaction		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Dose		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Drug		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Frequency		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Incompatibility		<input type="radio"/>	<input type="radio"/>			
<input checked="" type="checkbox"/>	Others	Wrong order	<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Polypharmacy		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Suggest to Monitor Vital Signs/Lab Result		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Wrong Patient		<input type="radio"/>	<input type="radio"/>			

**Figure 3.1.2-4 Intervention Reason**

- *Field that can be edited in Intervention Reason as below:*
  - *Intervention Reason*
  - *Remarks*
  - *Intervention Accepted*
  - *Intervention Not Accepted*

**Note**

**Commercial with additive PN type Intervention**

PN INTERVENTION ORDER

History Confirm Refresh Close

INTERVENTION REASON

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
<input type="checkbox"/>	Authenticity		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Contraindication		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Drug Interaction		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Dose		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Drug		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>

MODIFY ORDER

Type of PN:  Commercial / MOH Pre mix(Std. Soln)  
 Smof Kabiven Peripheral 1000kcal, 1.5L  Add Additive  
 Compounded

Body weight type:  Actual  Ideal  Adjusted Body weight:  kg

ADMINISTRATION INFO

Ordered Volume: <input type="text" value="1448"/> ml	Indication for PN: <input type="text" value="Enterocutaneous fistulae"/>
Frequency: <input type="text" value="OD (once daily)"/>	Infusion Line: <input type="text" value="Central"/>
Infusion Over: <input type="text" value="24"/> hours	Order Quantity: <input type="text" value="1"/> bag
Start Date/Time: <input type="text" value="14/10/2019 05:00 PM"/>	Dispense Location: <input type="text" value="Satellite Pharmacy"/>
End Date/Time: <input type="text" value="15/10/2019 05:00 PM"/>	Remarks: <input type="text"/>

PN COMPONENT

Electrolytes	Initial Content	Additional Requirement	Total Per Day
Sodium(Natrium),Na+	<input type="text" value="36"/> mmol	<input type="text" value="14"/> mmol	<input type="text" value="50"/> mmol
Potassium(Kalium),K+	<input type="text" value="28"/> mmol	<input type="text" value="12"/> mmol	<input type="text" value="40"/> mmol
Calcium,Ca2+	<input type="text" value="2.3"/> mmol	<input type="text" value="0"/> mmol	<input type="text" value="2.3"/> mmol
Magnesium,Mg+	<input type="text" value="4.6"/> mmol	<input type="text" value="0"/> mmol	<input type="text" value="4.6"/> mmol
Phosphate,(PO4)2-	<input type="text" value="11.9"/> mmol	<input type="text" value="2"/> mmol	<input type="text" value="13.9"/> mmol
Acetate(CH3COO)	<input type="text" value="96"/> mmol	<input type="text" value="2"/> mmol	<input type="text" value="98"/> mmol
Trace elements	<input type="text" value="0"/> ml	<input type="text" value="0"/> ml	<input type="text" value="0"/> ml
L-Glutamin	<input type="text" value="0"/> ml	<input type="text" value="0"/> ml	<input type="text" value="0"/> ml
Vitamin	<input checked="" type="radio"/> Combine Vitamin		
Water and Fat Soluble	<input type="text" value="0"/> ml	<input type="text" value="2"/> ml	<input type="text" value="2"/> ml

PRESCRIPTION

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
Smof Kabiven Peripheral 1000kcal, 1.5L With Additive	1448	1000	24	1 bag	OD (once daily)	1 Days	14/10/2019 05:00 PM	15/10/2019 05:00 PM	
Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Acetate (mmol)	Trace Element (ml)	Fat Soluble Vit. (ml)	Water Soluble Vit. (ml)	Combine Vitamin (ml)
13.9	50	40	N/A	N/A	98	N/A	N/A	N/A	2
L-Glutamin. (ml)		Calorie Calculator			Infusion Line				
N/A		NA			Central				

Figure 3.1.2-5 PN Intervention Order

**Note**

- User able to **Modify Order, Administration Information, PN Component and Prescription** section will display as per Figure 3.1.2-5.
- Field that can be edited in Administration Information as below:
  - Volume
  - Infusion Over

- Start Date/Time
  - Indication for PN
  - Infusion Line
  - Remarks
- Field that can be edited in PN Component is all additional requirement
  - Click on the  button to update back prescription details.
  - User able to insert intervention reason as shown in Figure 3.1.2-6

PN INTERVENTION ORDER							
				History	Confirm		
INTERVENTION REASON							
				[ 1 - 12 / 12 ]			
	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted			
<input type="checkbox"/>	Authenticity		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Contraindication		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Drug Interaction		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Dose		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Drug		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Frequency		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Incompatibility		<input type="radio"/>	<input type="radio"/>			
<input checked="" type="checkbox"/>	Others	Wrong order	<input checked="" type="radio"/>	<input checked="" type="radio"/>			
<input type="checkbox"/>	Polypharmacy		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Suggest to Monitor Vital Signs/Lab Result		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Wrong Patient		<input type="radio"/>	<input type="radio"/>			

**Figure 3.1.2-6 Intervention Reason**

- Field that can be edited in Intervention Reason as below:
  - Intervention Reason
  - Remarks
  - Intervention Accepted
  - Intervention Not Accepted

**Note**

**Compounded PN type Intervention**



PhIS & CPS Project  
User Manual – Parenteral Nutrition (PN) Dispensing



**PN INTERVENTION ORDER**

History
Confirm
↺
✕

**INTERVENTION REASON**

1 / 1
 [ 1 - 12 / 12 ]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
<input type="checkbox"/>	Authenticity		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Contraindication		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Drug Interaction		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Dose		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Drug		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>

**MODIFY ORDER**

Type of PN:  Commercial / MOH Pre mix(Std. Soln)  Compounded

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight:  kg

**PN COMPONENT**

**By weight**

Use Fluid Calculator

Total volume required:  ml/kg

Total oral feeding:  ml/kg

TPN Volume:  ml/kg

Energy required:  kcal/kg

**Macronutrient**

Carbohydrate:  g/kg Recommended range(per kg) 3.00 - 5.00 g/kg

Lipid:  g/kg 0.50 - 2.00 g/kg

Protein:  g/kg 0.50 - 2.00 g/kg

L-Glutamin:  ml/kg 1.50 - 2.50 ml/kg

Carbohydrate:Lipid(kcal):  Nitrogen Content:  g NPC:NRatio:

**Electrolytes**

Sodium(Natrium),Na+:  mmol/kg 1.00 - 2.00 mmol/kg

Potassium(Kalium),K+:  mmol/kg 0.70 - 1.50 mmol/kg

Calcium,Ca2+:  mmol/kg 0.10 - 0.15 mmol/kg

Magnesium,Mg+:  mmol/kg 0.05 - 0.15 mmol/kg

Phosphate,(PO4)2-:  mmol/kg 0.50 - 0.70 mmol/kg

Chloride,Cl+:  mmol/kg 1.30 - 2.00 mmol/kg

Acetate(CH3COO):  mmol/kg 0.00 - 0.00 mmol/kg

**Trace elements**:  ml/kg 0.00 - 10.00 ml

**Vitamin**:  Single Vitamin  Combine Vitamin

**Per day**

Total volume required:  ml

Total oral feeding:  ml

TPN Volume:  ml

Energy required:  kcal

**Energy(per day)**

Carbohydrate:  g 780 kcal

Lipid:  g 585 kcal

Protein:  g 260 kcal

L-Glutamin:  ml 80 kcal

Total:  kcal

**ADMINISTRATION INFO**

Volume:  ml

Frequency:

Infusion Over:  hours

Start Date/Time:

End Date/Time:

Indication for PN:

Infusion Line:

Order Quantity:  BAG

Dispense Location:

Remarks:

**PRESCRIPTION**

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	43.08 (2800)	26.23 (1705)	24	1 BAG	OD	1 Days	14/10/2019 05:00 PM	15/10/2019 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (39)	1 (65)	1 (65)	0.1 (6.5)	0.1 (6.5)	NA	0.08 (5)	NA	NA	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
1 (65)	3 (195)	NA	1 (65)	1.54 (100)	NA	Central			

Figure 3.1.2-7 PN Intervention Order

**Note**

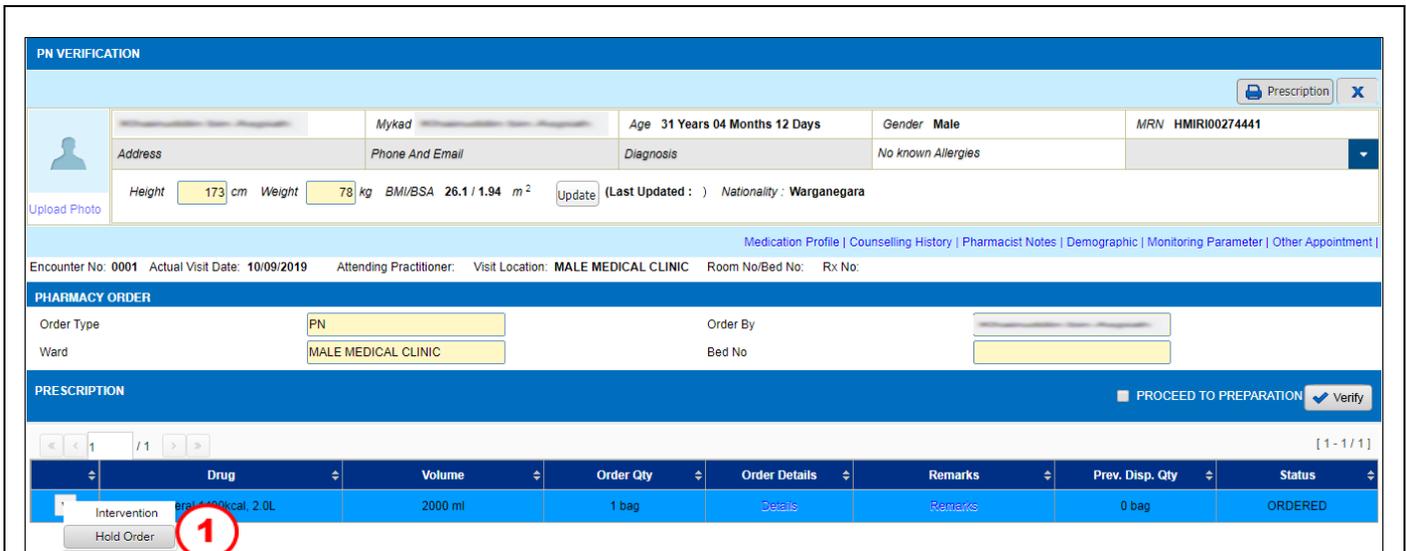
- User able to **Modify Order, PN Component, Administration Information and Prescription** section will display as per Figure 3.1.2-7.
- Field that can be edited in Administration Information as below:
  - Volume
  - Infusion Over
  - Start Date/Time
  - Indication for PN
  - Infusion Line
  - Remarks
- All field in PN Component is allowed to edit
- Click on the  button to update back prescription details.
- User able to insert intervention reason as shown in Figure 3.1.2-8

PN INTERVENTION ORDER							
				History	Confirm		
INTERVENTION REASON							
				[ 1 - 12 / 12 ]			
	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted			
<input type="checkbox"/>	Authenticity		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Contraindication		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Drug Interaction		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Dose		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Drug		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Inappropriate Frequency		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Incompatibility		<input type="radio"/>	<input type="radio"/>			
<input checked="" type="checkbox"/>	Others	Wrong order	<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Polypharmacy		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Suggest to Monitor Vital Signs/Lab Result		<input type="radio"/>	<input type="radio"/>			
<input type="checkbox"/>	Wrong Patient		<input type="radio"/>	<input type="radio"/>			

**Figure 3.1.2-8 Intervention Reason**

- Field that can be edited in Intervention Reason as below:
  - Intervention Reason
  - Remarks
  - Intervention Accepted
  - Intervention Not Accepted

### 3.1.3 Hold/Resume Parenteral Nutrition (PN) Order



**PN VERIFICATION**

Prescription X

Mykad: [Redacted] Age: 31 Years 04 Months 12 Days Gender: Male MRN: HMIRI00274441

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 173 cm Weight: 78 kg BMI/BSA: 26.1 / 1.94 m<sup>2</sup> Update (Last Updated: ) Nationality: Warganegara

Encounter No: 0001 Actual Visit Date: 10/09/2019 Attending Practitioner: Visit Location: MALE MEDICAL CLINIC Room No/Bed No: Rx No:

**PHARMACY ORDER**

Order Type: PN Order By: [Redacted]  
Ward: MALE MEDICAL CLINIC Bed No: [Redacted]

**PRESCRIPTION** PROCCEED TO PREPARATION Verify

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Intervention: Parenteral Nutrition 2.0L	2000 ml	1 bag	Details	Remarks	0 bag	ORDERED

Hold Order (1)

Figure 3.1.3-1 PN Verification Screen

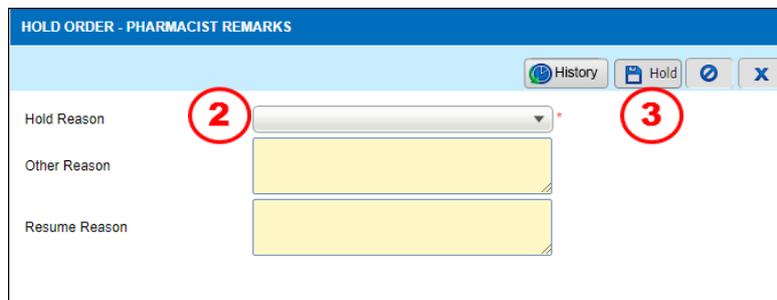
**Note**

To proceed with Hold/Resume PN Order, repeat **Step 1 to 3** from section **3.1.1 Verify PN Order**.

**Hold Order**

**STEP 1**

Right click on the  button and select **Hold Order** function and screen will be displayed as Figure 3.1.3-2



**HOLD ORDER - PHARMACIST REMARKS**

History Hold X

Hold Reason (2)

Other Reason

Resume Reason

Hold (3)

Figure 3.1.3-2 Hold Order – Pharmacist Remarks

**STEP 2**

Select the **Hold Reason** from dropdown box:

- Authenticity
- Contraindication
- Drug Interaction
- Inappropriate Dose
- Inappropriate Drug
- Inappropriate Duration
- Inappropriate Frequency
- Incompatibility
- Intervention

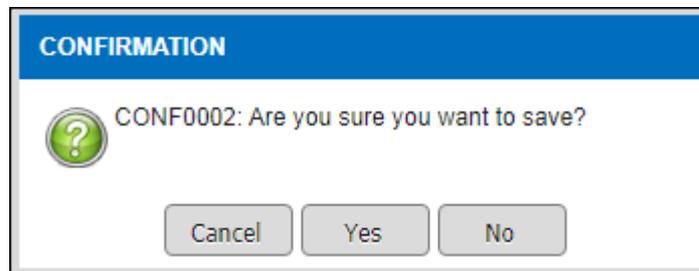
- Others
- Patient Refused
- Polypharmacy
- Suggest to Monitor Vital Signs/Lab Result
- Wrong Patient

**Note**

**Other Reason** field will enable if user select hold reason as Others.

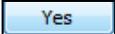
**STEP 3**

Click on the  button to hold order and alert message will display as Figure 3.1.3-3



**Figure 3.1.3-3 Confirmation Alert Message**

**Note**

- Click on the  button to confirm the hold record as per Figure 3.1.3-3.
- **Status** will change to "Ordered Hold" as per Figure 3.1.3-4.

**PN VERIFICATION**

Prescription [X]

Mykad: [Redacted] Age: 31 Years 04 Months 12 Days Gender: Male MRN: HMIRI00274441

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 173 cm Weight: 78 kg BMI/BSA: 26.1 / 1.94 m<sup>2</sup> Update (Last Updated: ) Natio: Nationality: Warganegara

Medication Profile | Counseling History | Pharmacist Notes | Demographic | Monitoring Parameter | Other Appointment |

Encounter No: 0001 Actual Visit Date: 10/09/2019 Attending Practitioner: Visit Location: MALE MEDICAL CLINIC Room No/Bed No: Rx No:

**PHARMACY ORDER**

Order Type: PN Order By: [Redacted]

Ward: MALE MEDICAL CLINIC Bed No: [Redacted]

**PRESCRIPTION** [PROCEED TO PREPARATION] [Verify]

[1-1/1]

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Kabiven Periferal 1400kcal, 2.0L Intervention	2000 ml	1 bag	Details	Remarks	0 bag	ORDERED HOLD

Resume Order [4]

Figure 3.1.3-4 PN Verification

**Resume Order**

**STEP 4**

Right click on the [Dropdown] button and select **Resume Order** function and screen will be displayed as Figure 3.1.3-5

**HOLD ORDER - PHARMACIST REMARKS** [6] [7]

History [Resume] [X]

Hold Reason: Inappropriate Duration

Other Reason: [Redacted]

Resume Reason: Done [5]

Figure 3.1.3-5 Hold Order – Pharmacist Remarks

**STEP 5**

Enter reason at **Resume Reason** field

**STEP 6**

Click on the [Resume] button to resume hold order

**STEP 7**

Click on the [X] button to close window and alert message will be displayed as per Figure 3.1.3.6

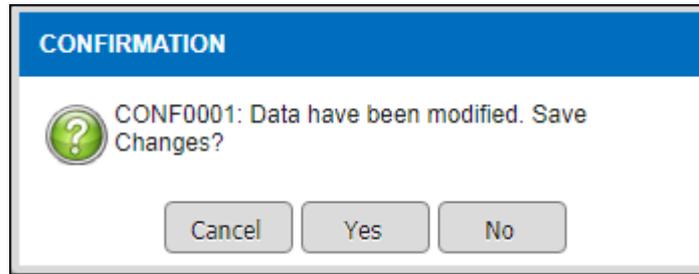


Figure 3.1.3-6 Confirmation Alert Message

**Note**

- Click on the  button to confirm save record.
- **Status** will change to "Ordered".

**History**

**Note**

- Click on the  button to view history of hold order reason history listing as per Figure 3.1.3-7.
- Click on the  button to close Hold Order Reason History listing screen.

HOLD ORDER REASON HISTORY LISTING					
					
 <span style="float: right;">[ 1 - 1 / 1 ]</span>					
Date/Time	Screen	Hold Reason	Remarks	Resume Remarks	Updated By
10/09/2019 12:43 PM	Verification	Inappropriate Duration		Done	

Figure 3.1.3-7 Hold Order – Pharmacist Remarks

## 3.2 Parenteral Nutrition (PN) Preparation

### 3.2.1 Preparation for Commercial

**PHARMACY INFORMATION SYSTEM**

HOSP. PAKAR SULTANAH FATIMAH

Home Preparation Verification

PN - PREPARATION

Dispense Location: FARMASI BEKALAN WAD

Order Status: All

Administration Date From: [ ]

IC No/Other Identification: [ ]

Patient Name: [ ]

Patient MRN: [ ]

Administration Date To: [ ]

Advanced Search

Search [ ]

Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location	Outsource Status
HPSF00328441	[ ]	[ ]	Commercial with Additive	20/10/2022 05:00 PM	20/10/2022 02:48 PM	WAD 9 (MED - L)	
HPSF00275289	[ ]	[ ]	Commercial with Additive	04/04/2022 05:00 PM	04/04/2022 01:57 PM	WAD 4	
HPSF00051007	[ ]	[ ]	Compounded	30/03/2022 05:00 PM	30/03/2022 03:57 PM	WAD 10 (MED - P)	

Figure 3.2.1-1 PN Preparation Listing Page

#### STEP 1

Click on 'Pharmacy Transaction' menu follow by 'Dispensing' sub menu and select 'PN'

#### STEP 2

Click on 'Preparation' function

#### Note

Search patient record based: -

Basic Search			
No	Field	Description	Remark
a	Dispense Location	Dispensing location. (It will list down all active location)	Able to filter and search patient name by dispensing location
b	Order Status	Search by: All Verified Verified Hold Partial Supply Orders	Able to filter and search patient name by order status
c	Patient Name	Patient Name	Allow to search by full name or partial
d	Patient MRN	Patient Medical Record Number	Search option: Type the MRN either full or partial: <i>Example: HPSF00001234 or "1234"</i>
e	Administration Date From	Administration confirmed date	Allow to search by start date of verification order
f	Administration Date To	Administration confirmed date	Allow to search by selected range of verification order
g	IC No/Other Identification	Identification number	Allow to search by patients identification no /other identification details
Advance Search			
a	Order location Type	Current Visit Location Type	Search by: - All - Clinic



			- Day Care - ER - Nursing Unit - Pharmacy
b	Order Location	Current visit Location	Able to filter and search patient name by visit location
c	Order Date From	Order confirmed date	Allow to search by start date of order created
d	Order Date To	Order confirmed date	Allow to search by selected range of order created

**Table 3.2.1-1: Search Criteria**

**STEP 3**

Click on the  button to search patient

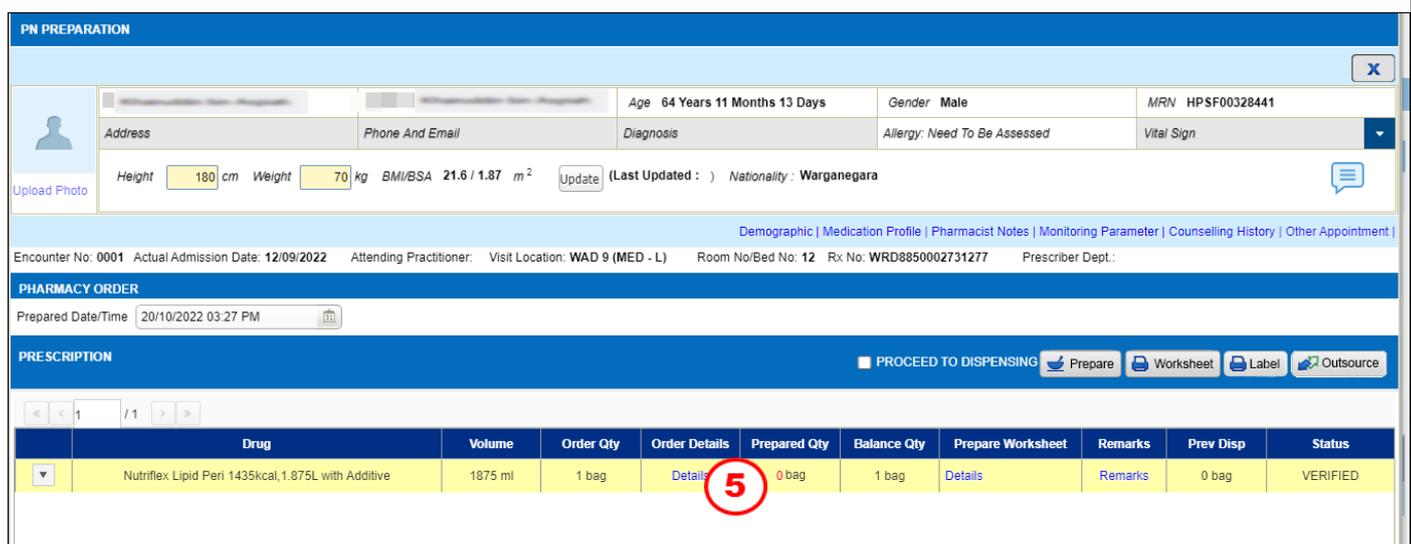
**Note**

Search result of patient record list will be displayed:

- Patient MRN
- Patient Name
- IC No/Other Identification
- Type of PN
- Start Date Time
- Outsource Status
- Order Date Time
- Order Location

**STEP 4**

Double click on record and PN Preparation screen will be displayed as Figure 3.2.1-2



The screenshot shows the 'PN PREPARATION' interface. At the top, there are tabs for 'PHARMACY ORDER' and 'PRESCRIPTION'. The 'PHARMACY ORDER' section displays patient information: Age 64 Years 11 Months 13 Days, Gender Male, MRN HPSF00328441, Address, Phone And Email, Diagnosis, Allergy: Need To Be Assessed, Vital Sign, Height 180 cm, Weight 70 kg, BMI/BSA 21.6 / 1.87 m<sup>2</sup>, and Nationality: Warganegara. The 'PRESCRIPTION' section shows a table with columns: Drug, Volume, Order Qty, Order Details, Prepared Qty, Balance Qty, Prepare Worksheet, Remarks, Prev Disp, and Status. The first row contains 'Nutriflex Lipid Peri 1435kcal, 1.875L with Additive' with a 'Prepared Qty' of '0 bag' and a 'Balance Qty' of '1 bag'. A red circle with the number '5' is overlaid on the 'Prepared Qty' column header.

**Figure 3.2.1-2 PN Preparation**

**STEP 5**

Click on the  link to allocate quantity and Item Batch Details screen will display as per Figure 3.2.1-3



**ITEM BATCH DETAILS**

Drug Code: PNA00020      Default SKU: bag

Drug Name: Smof Kabiven Peripheral 1000kcal, 1.5L

**BATCH DETAIL**

<< < 1 / 1 > >> [1 - 1 / 1]

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
2323	02/01/2021	2222	1	1

Total Location Quantity: 2222      Total Allocated Quantity: 1

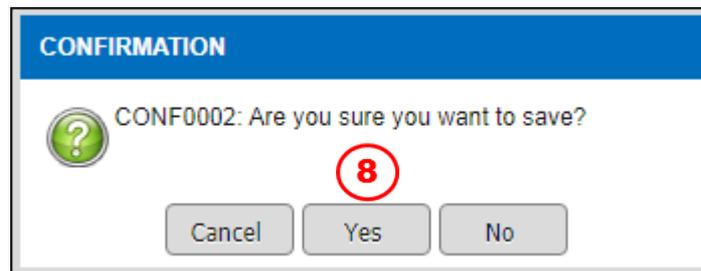
Figure 3.2.1-3 Item Batch Details

**STEP 6**

Enter *Allocated Qty* field

**STEP 7**

Click on the  button to save record



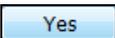
**CONFIRMATION**

CONF0002: Are you sure you want to save?

Cancel Yes No

Figure 3.2.1-4 Confirmation Alert Message

**STEP 8**

Click on the  button to confirm save

**Note**

**Order Details**

- Click on the [Details](#) hyperlink to view order details as per Figure 3.2.1-5.

PN ORDER DETAILS									
 Upload Photo	Mykad	Age	63 Years 09 Months 30 Days	Gender	Male	MRN	HSM000035		
	Address	Phone And Email	Diagnosis	No known Allergies					
Height <input type="text" value="170"/> cm Weight <input type="text" value="80"/> kg BMI/BSA 27.7 / 1.94 m <sup>2</sup> (Last Updated : ) Nationality : Warganegara									
Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Infusion Rate (ml/hour)	Quantity	Freq	Duration	Start Date / Time	End Date / Time
Smof Kabiven Peripheral 1000kcal, 1.5L	1448	1000	24	60.33 ml/hour	1 bag	OD (once daily)	1 Days	14/10/2019 05:00 PM	15/10/2019 05:00 PM
Calorie Calculator					Infusion Line				
NA					Central				
Intervention Reason			Intervention Remarks			Intervention Accepted			

Figure 3.2.1-5 PN Order Details

**Note**

**Remarks**

PN REMARKS	
Prescriber Remark	
Order Stage	
Pharmacist Remark	
Verification Stage	
Preparation Stage	Proceed

Figure 3.2.1-6 PN Remarks

- Click on the [Remarks](#) hyperlink to display PN Remark as per Figure 3.2.1-6.
  - Prescriber Remark
    - Order Stage** to be retrieved upon ordering.
  - Pharmacist Remark
    - Verification Stage** to be retrieved during verification.
    - Preparation Stage** to be retrieved during preparation.

- The  button to save record.
- The  button to close PN Remarks screen.
- The  button to cancel remark record.

**PN PREPARATION**



Upload Photo

Address

Phone And Email

Age 37 Years 05 Months 13 Days

Gender Male

MRN HPSF00328379

Diagnosis

Allergy: Need To Be Assessed

Vital Sign

Height  cm Weight  kg BMI/BSA 24.6 / 1.83 m<sup>2</sup>  (Last Updated : 04/01/2023 ) Nationality : Warganegara

Demographic | Medication Profile | Pharmacist Notes | Monitoring Parameter | Counselling History | Other Appointment

Encounter No: 0001 Actual Admission Date: 04/01/2023 Attending Practitioner: Visit Location: WAD 3 Room No/Bed No: Rx No: WRD8790002731301 Prescriber Dept:

**PHARMACY ORDER**

Prepared Date/Time

**PRESCRIPTION**

PROCEED TO DISPENSING

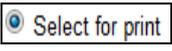
1 / 1

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1435kcal,1.875L	1875 ml	1 bag	<a href="#">Details</a>	0 bag	1 bag	Remarks	0 bag	VERIFIED

Figure 3.2.1-7 PN Preparation

**Note**

**Edit Label**

- Click on the  button to edit label and PN Edit Label window will display as per Figure 3.2.1-8.
- Select the  radio button to print label.
- User allows to edit **Infusion Over**, and **Shelf Life** field.
- **Expiry Date** field will automatically display after filling the **Shelf Life** field.
- **Drug Name, Total Volume, Infusion Rate and Batch No** field will be displayed automatically by system.
- The  button to print label as per Figure 3.2.1-8.
- The  button to close PN Edit Label window.

**PN EDIT LABEL**

Select for print

Drug Name: Smof Kabiven Peripheral 1000kcal, 1.5L

Total Volume: 1448 ml

Infusion Over: 24 Hour(s)

Infusion Rate: 60.33 mL/Hour

Prepared Date/Time: 14/10/2019 12:26 PM

Expiry Date/Time: 15/10/2019 12:26 PM

Batch/Worksheet No: 2323

Infusion Line: Central

Shelf Life: 24 Hours

Figure 3.2.1-8 PN Edit Label

HOSPITAL SERI MANJUNG		
Smof Kabiven Peripheral 1000kcal, 1.5L		
NAME :		
ID NO 551215085023		
AGE : 63 Years 09 Months 30 Days		
MRN : HSM000035	WARD/BED NO: SOPD	
Total 1448 ml/bag		
Content	/ kg	/ bag
Protein (g)	0.57	46
Dextrose (g)	1.29	103
Lipid (g)	0.51	41
Sodium (mmol)	0.45	36
Potassium (mmol)	0.35	28
Calcium (mmol)	0.03	2.3
Magnesium (mmol)	0.06	4.6
Phosphate (mmol)	0.15	11.9
Chloride (mmol)	0.4	32
Acetate (mmol)	1.2	96
Trace Element (ml)	0	0
Vitamins (ml)	0	0
Calories (kcal)	12.5	1000
Osmolarity (mOsm/l)	10.62	850
Admin Date/Time :		
Infusion Rate	60.33 mL/Hrs	
Infusion Over	24 Hrs	
Batch No : 2323	Expiry Date : 15/10/2019	Price : RM
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 48 hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 3.2.1-9 Sample Label

**PN PREPARATION**

	Address	Phone And Email	Age 37 Years 05 Months 13 Days	Gender Male	MRN HPSF00328379
Upload Photo	Height 170 cm	Weight 71 kg	BMI/BSA 24.6 / 1.83 m <sup>2</sup>	Allergy: Need To Be Assessed	
			Update (Last Updated : 04/01/2023 )		Nationality : Warganegara

Demographic | Medication Profile | Pharmacist Notes | Monitoring Parameter | Counselling History | Other Appointment

Encounter No: 0001 Actual Admission Date: 04/01/2023 Attending Practitioner: Visit Location: WAD 3 Room No/Bed No: Rx No: WRD8790002731301 Prescriber Dept:

**PHARMACY ORDER**

Prepared Date/Time 04/01/2023 11:48 AM 9

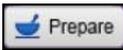
**PRESCRIPTION**

PROCEED TO DISPENSING

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1435kcal,1.875L	1875 ml	1 bag	<a href="#">Details</a>	0 bag	1 bag	Remarks	0 bag	VERIFIED

**Figure 3.2.1-10 PN Preparation**

**STEP 9**

Click on the  button to prepare PN order and alert message will be displayed as per Figure 3.2.1-11

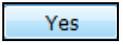
**CONFIRMATION**



INFO0577: Please make sure already print worksheet and label before proceed to dispensing stage. Do you want to proceed with the preparation?

**Figure 3.2.1-11 Prepare Order Alert Message**

**STEP 10**

Click on the  button to confirm prepare order

**Note**

*Proceed to Dispensing function will allow user advance to the next screen for each patient record.*

### 3.2.1.1 Alternate Drug

**Note**

- Preparation for Commercial screen allows user to dispense different drug from existing ordered drug with conditions, alternate drug should contains same active ingredient and same administration route.
- Route field will be displayed automatically by system
- To proceed with Alternate Drug PN Order, repeat **Step 1 to 4** from section [3.2.1 Preparation for Commercial](#).
- All these field will be displayed automatically by system as below:
  - Location
  - Ordered Drug Code
  - Dosage Form
  - Ordered Drug Description

**ALTERNATE DRUG**

5

Location	UNIT NUTRISI PARENTERAL	Ordered Drug Code	PNA00001
Dosage Form	Parenteral Solution	Ordered Drug Description	Nutriflex Lipid Peri 955kcal,1.25L
Route	INF	Alternate Drug Name	Smof Kabiven Central 1600kcal, 1.5L <span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold;">1</span>

**BATCH DETAIL**

2

No	Drug Name	Dosage Form	Route	Batch	Expiry Date	Available Qty	Units	Qty to Dispense
1	Smof Kabiven Central 1600kcal, 1.5L	Parenteral Solution	INF	DMHPSF14	07/04/2015	79	bag	2 1

Reason	<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold;">3</span>	Remark	<span style="border: 1px solid red; border-radius: 50%; padding: 2px 5px; font-weight: bold;">4</span>
--------	--	--------	--

**Figure 3.2.1.1-1 Alternate Drug**

**STEP 1**

Select the **Alternate Drug Name** from dropdown box, example:

- Kabiven Periferal 1400kcal, 2.0L
- Kabiven Periferal 1000kcal, 1.5L
- PN Paed Soln 2 (72kcal, Dext 14%)
- PN Paed Soln 3 (48kcal, Dext 10%)
- Smof Kabiven Central 800kcal, 1.2L
- Kabiven Central 1900kcal, 2.0L
- Smof Kabiven Central 1100kcal, 1.0L
- Nutriflex Lipid Peri 1910kcal, 2.5L
- Nutriflex Lipid Peri 1435kcal, 1.875L
- Kabiven Central 900kcal, 1.0L
- Smof Kabiven Central 1600kcal, 1.5L
- PN Paed Soln 1 (72kcal, Dext 14%, K nil)

**STEP 2**

Enter **Qty to Dispense** field as per Figure 3.2.1.1-1

**STEP 3**

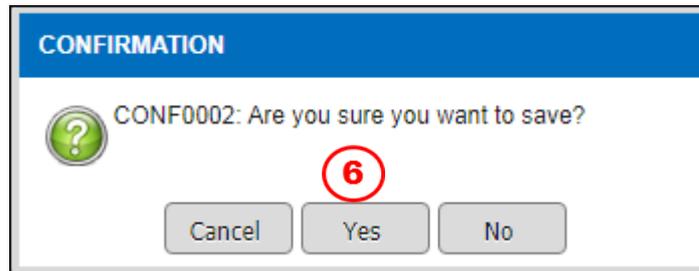
Enter **Reason** field if applicable

**STEP 4**

Enter **Remark** field if applicable

**STEP 5**

Click on the  button to confirm save record and alert message will be displayed as per Figure 3.2.1.1-2



**Figure 3.2.1.1-2 Confirmation Alert Message**

**STEP 6**

Click on the  button to confirm save record

**Note**

- System will display the alternate drug in green row as per Figure 3.2.1.1-3.
- Intervention and Hold/Resume Order still can be done in preparation stage.
- Steps of Intervention can be referred at 3.1.1 sections.
- Steps of Hold/Resume Order can be referred at 3.1.2 sections.

PN PREPARATION

 Prescription X

	Age 74 Years 07 Months 06 Days	Gender Female	MRN HSM000012
Address	Phone And Email	Diagnosis	No known Allergies
Height <span style="background-color: yellow;">155</span> cm Weight <span style="background-color: yellow;">60</span> kg BMI/BSA 25 / 1.61 m <sup>2</sup> <span style="background-color: yellow;">06PD</span> <span style="border: 1px solid gray; padding: 0 2px;">Update</span> (Last Updated : ) Nationality: Warganegara			

[Medication Profile](#) | [Counselling History](#) | [Pharmacist Notes](#) | [Demographic](#) | [Monitoring Parameter](#) | [Other Appointment](#)

Encounter No: 0019 Actual Visit Date: 14/10/2019 Visit Location: MOPD Room No/Bed No: Rx No: MED0000824613 Order By:

PHARMACY ORDER

Prepared Date/Time: 20/10/2022 03:27 PM

PRESCRIPTION

PROCEED TO DISPENSING
 Prepare
 Worksheet
 Label
 Outsource

<	1	/ 1	>	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
				Smof Kabiven Peripheral 1000kcal, 1.5L	1448 ml	1 bag		0 bag	0 bag		0 bag	VERIFIED
				Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml)	1448 ml	1 bag	<a href="#">Details</a>	1 bag	1 bag		0 bag	

**Figure 3.2.1.1-3 PN Preparation**



### 3.2.2 Preparation for Commercial Add Additive

**Note**

- Preparation (commercial add additive) allows user to add additional component in existing commercial bag.
- To proceed with Preparation for Commercial Add Additive, repeat **Step 1 to 4** from section **3.2.1 Preparation for Commercial**.

**PN PREPARATION**

Age 64 Years 11 Months 13 Days | Gender Male | MRN HP SF00328441

Address | Phone And Email | Diagnosis | Allergy: Need To Be Assessed | Vital Sign

Height 180 cm | Weight 70 kg | BMI/BSA 21.6 / 1.87 m<sup>2</sup> | Update (Last Updated : ) | Nation: Nationality : Warganegara

Demographic | Medication Profile | Pharmacist Notes | Monitoring Parameter | Counselling History | Other Appointment

Encounter No: 0001 | Actual Admission Date: 12/09/2022 | Attending Practitioner: | Visit Location: WAD 9 (MED - L) | Room No/Bed No: 12 | Rx No: WRD8850002731277 | Prescriber Dept.:

**PHARMACY ORDER**

Prepared Date/Time: 20/10/2022 03:27 PM

**PRESCRIPTION** PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1435kcal, 1.875L with Additive	1875 ml	1 bag	<a href="#">Details</a>	0 bag	1 bag	<a href="#">Details</a>	Remarks	0 bag	VERIFIED

Figure 3.2.2-1 PN Preparation

**Note**

**Order Details**

- Click on the [Details](#) hyperlink to view order details as per Figure 3.2.2-2.

**PN ORDER DETAILS**

Age 35 Years 02 Months 16 Days | Gender Female | MRN HSM000017

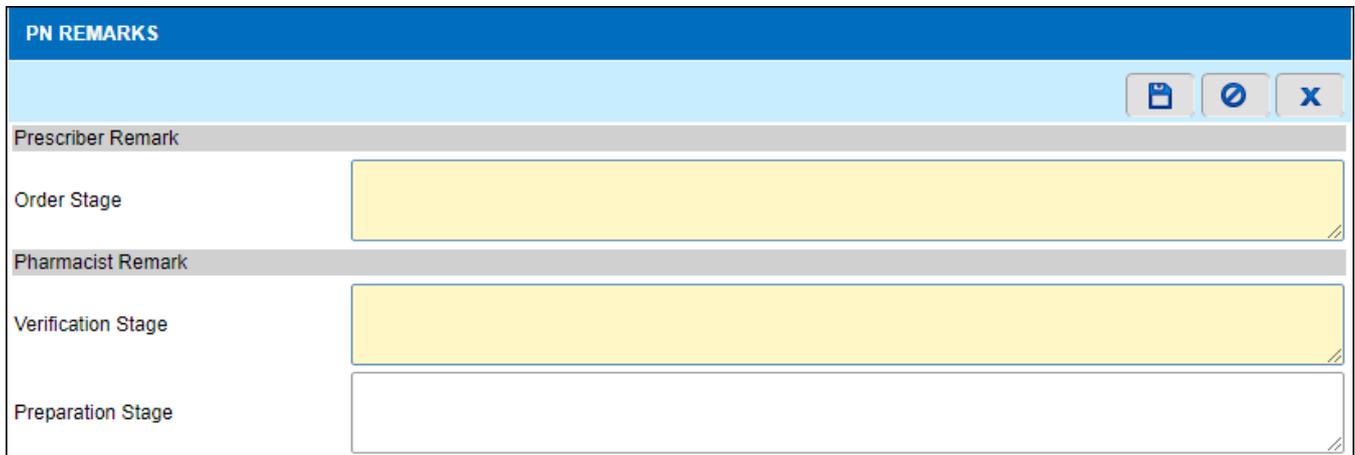
Address | Phone And Email | Diagnosis | No known Allergies

Height 156 cm | Weight 60 kg | BMI/BSA 24.7 / 1.61 m<sup>2</sup> | (Last Updated : ) | Nationality : Warganegara

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Infusion Rate (ml/hour)	Quantity	Freq	Duration	Start Date / Time	End Date / Time
Smof Kabiven Peripheral 1000kcal, 1.5L With Additive	1448	1000	24	60.33 ml/hour	1 bag	OD (once daily)	1 Days	14/10/2019 05:00 PM	15/10/2019 05:00 PM
Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Acetate (mmol)	Trace Element (ml)	Fat Soluble Vit. (ml)	Water Soluble Vit. (ml)	Combine Vitamin (ml)
13.9	50	40	2.3	4.6	98	NA	NA	NA	2
L-Glutamin (ml)			Calorie Calculator				Infusion Line		
NA			NA				Central		
Intervention Reason			Intervention Remarks				Intervention Accepted		

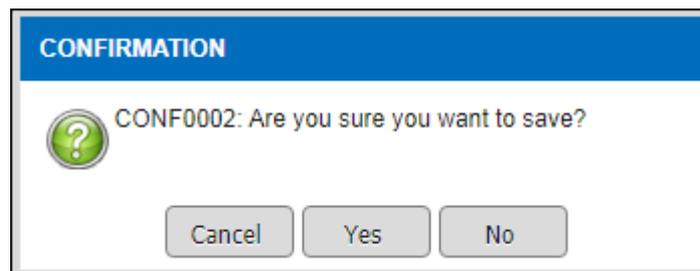
Figure 3.2.2-2 PN Order Details

**Remarks**

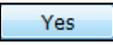


**Figure 3.2.2-3 PN Order Details**

- Click on the **Remarks** hyperlink to display PN Remark as per Figure 3.2.2-3.
  - a) Prescriber Remark
    - **Order Stage** to be retrieved upon ordering..
  - b) Pharmacist Remark
    - **Verification Stage** to be retrieved during verification.
    - **Preparation Stage** to be retrieved during preparation.
- The  button to save record alert message will be displayed as per Figure 3.2.2-4.



**Figure 3.2.2-4 Confirmation Alert Message**

- The  button to confirm save.
- The  button to close PN Remarks screen.
- The  button to cancel remark record.



**PN PREPARATION**

Age 64 Years 11 Months 13 Days Gender Male MRN HPSF00328441

Address Phone And Email Diagnosis Allergy: Need To Be Assessed Vital Sign

Height 180 cm Weight 70 kg BMI/BSA 21.6 / 1.87 m<sup>2</sup> Update (Last Updated : ) Nationality : Warganegara

Nationality : Warganegara

Demographic | Medication Profile | Pharmacist Notes | Monitoring Parameter | Counselling History | Other Appointment |

Encounter No: 0001 Actual Admission Date: 12/09/2022 Attending Practitioner: Visit Location: WAD 9 (MED - L) Room No/Bed No: 12 Rx No: WRD8850002731277 Prescriber Dept.:

**PHARMACY ORDER**

Prepared Date/Time 20/10/2022 03:27 PM

**PRESCRIPTION**  PROCEED TO DISPENSING [Prepare](#) [Worksheet](#) [Label](#) [Outsource](#)

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1435kcal,1.875L with Additive	1875 ml	1 bag	<a href="#">Details</a>	0 bag	1 bag	<a href="#">Details</a>	Remarks	0 bag	VERIFIED

Figure 3.2.2-5 PN Preparation

**STEP 1**

Click on the [0 bag](#) link to allocate quantity and Item Batch Details screen will display as per Figure 3.2.2-6

**ITEM BATCH DETAILS**

Drug Code PNA00020 Default SKU bag

Drug Name Smof Kabiven Peripheral 1000kcal, 1.5L

**BATCH DETAIL**

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
2323	02/01/2021	2221	1	1

Total Location Quantity 2221 Total Allocated Quantity 1

Figure 3.2.2-6 Item Batch Details

**STEP 2**

Enter **Allocated Qty** field

**STEP 3**

Click on the [Save](#) button to save record

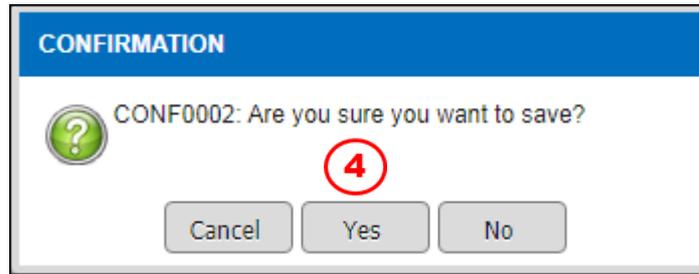
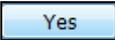
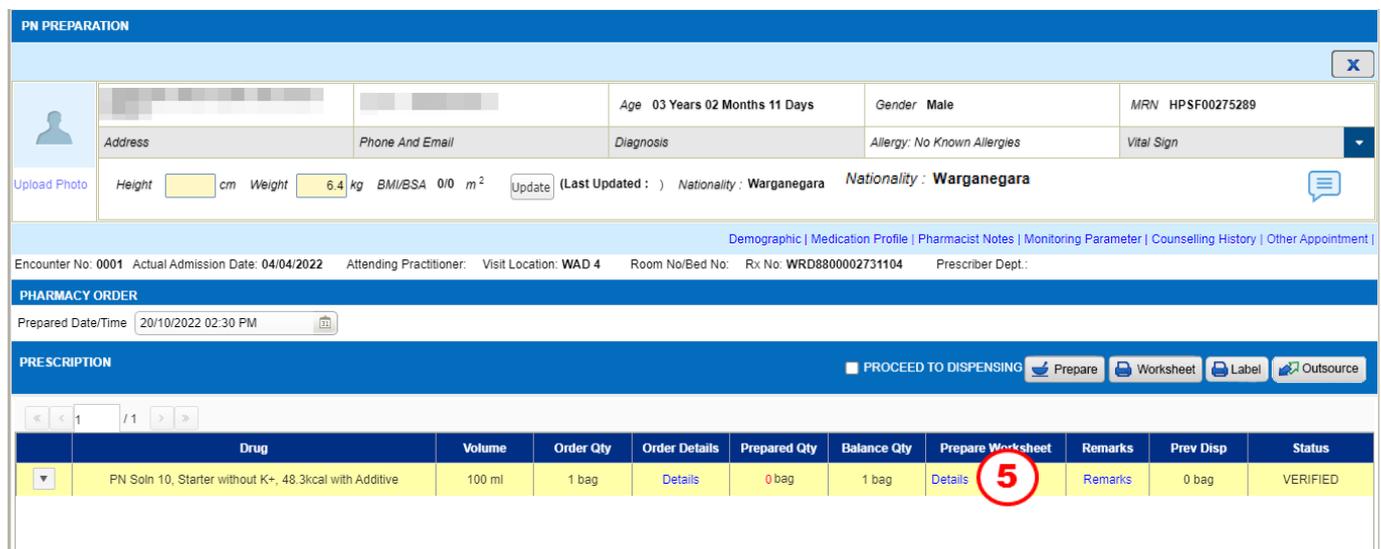


Figure 3.2.2-7 Confirmation Alert Message

**STEP 4**

Click on the  button to confirm save



Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Soln 10, Starter without K+, 48.3kcal with Additive	100 ml	1 bag	<a href="#">Details</a>	0 bag	1 bag	<a href="#">Details</a>	Remarks	0 bag	VERIFIED

Figure 3.2.2-8 PN Preparation

**STEP 5**

Click on the  button to prepare worksheet as per Figure 3.2.2-8

**Note**

- **Macronutrient, Vitamin and Electrolytes** field will automatically display by system.

**PREPARE WORKSHEET**

Intervention  Auto Allocation Print Close

**DETAIL**

<b>Macronutrient</b>	<b>Vitamin</b>	<b>Trace elements</b>	
Glucose <input type="text" value="0"/> g	Vitamin Solution <input type="text" value="0"/> ml	<input type="text" value="0"/> ml	
Lipid <input type="text" value="0"/> g	Water soluble <input type="text" value="0"/> ml	Acetate <input type="text" value="0"/> mmol	
Protein <input type="text" value="0"/> g	Fat soluble <input type="text" value="0"/> ml	L-Glutamin <input type="text" value="0"/> ml	
<b>Electrolytes</b>			
Sodium(Natrium),Na+ <input type="text" value="1"/> mmol	Calcium,Ca2+ <input type="text" value="1"/> mmol	Phosphate,(PO4)2- <input type="text" value="0.1"/> mmol	
Potassium(Kalium),K+ <input type="text" value="0"/> mmol	Magnesium,Mg+ <input type="text" value="0.25"/> mmol		

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content							
						Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
<input type="text" value="0"/>	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<input type="text" value="0"/>	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Sodium Chloride 3% 500mL IV soln	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Potassium Chloride 1g/10ml Injection	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<input type="text" value="0"/>	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.25"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Trace Element - Paediatric (Peditrace) 10mL Inj	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Trace Elements							
<input type="text" value="0"/>	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Combine Vitamin (Water & Fat Soluble)							
<input type="text" value="0"/>	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Water Soluble Vitamins							
<input type="text" value="0"/>	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	Fat Soluble Vitamins							
<input type="text" value="0"/>	<input type="text" value="0"/>		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	L-Glutamin							
Total Preparation	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/> mOsmol/L	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
					Content/L	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Calculate

Figure 3.2.2-9 Prepare Worksheet

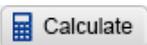
**STEP 6**

Click on the item dropdown to select the item before allocate

**Note**

- Able to set default drug in Maintenance - Pharmacy - PN Source Content screen.
- Drug listed should exists in dispense location unit catalogue.

**STEP 7**

Click on the  button to calculate the item volume and order quantity as per Figure 3.2.2-10

PREPARE WORKSHEET
8

Intervention  Auto Allocation 📄 ✕

DETAIL

**Macronutrient**

Glucose  g

Lipid  g

Protein  g

**Electrolytes**

Sodium(Natrium),Na+  mmol

Potassium(Kalium),K+  mmol

**Vitamin**

Vitamin Solution  ml

Water soluble  ml

Fat soluble  ml

Calcium, Ca2+  mmol

Magnesium, Mg+  mmol

**Trace elements**

Trace elements  ml

Acetate  mmol

L-Glutamin  ml

Phosphate, (PO4)2-  mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content						
						Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
<input type="text" value="0"/>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Potassium Dihydrogen Phosphate Injection	<input type="text" value="0.1"/>	1 amp	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.2"/>	<input type="text" value="0"/>	<input type="text" value="0.1"/>	<input type="text" value="0"/>	<input type="text" value="0.1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Sodium Chloride 3% 500mL IV soln	<input type="text" value="1.96"/>	1 bott	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="2.02"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="1"/>
<input type="text" value="0"/>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Calcium Gluconate 10% Injection	<input type="text" value="4.42"/>	1 amp	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="2.92"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="1"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Magnesium Sulphate 50% Injection (49.3%/5mL)	<input type="text" value="0.13"/>	1 amp	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.6"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0.25"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
<input type="text" value="0"/>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/>	Trace Elements						
<input type="text" value="0"/>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/>	Combine Vitamin (Water & Fat Soluble)						
<input type="text" value="0"/>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/>	Water Soluble Vitamins						
<input type="text" value="0"/>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/>	Fat Soluble Vitamins						
<input type="text" value="0"/>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/>	L-Glutamin						
<b>Total Preparation</b>	<input type="text" value="6.61"/>			<input type="text" value="0"/>	<input type="text" value="868.38"/> mOsmol/L	<input type="text" value="0"/>	<input type="text" value="0.1"/>	<input type="text" value="1"/>	<input type="text" value="0.1"/>	<input type="text" value="1"/>	<input type="text" value="0.25"/>	<input type="text" value="1"/>
					<b>Content/L</b>	<input type="text" value="0"/>	<input type="text" value="15.13"/>	<input type="text" value="151.29"/>	<input type="text" value="15.13"/>	<input type="text" value="151.29"/>	<input type="text" value="37.82"/>	<input type="text" value="151.29"/>

Figure 3.2.2-10 Prepare Worksheet

**STEP 8**

Click on the button to save record and the system will display as per Figure 3.2.2-13

**Note**

- Once user click on the Intervention button, system will reset the allocated qty to '0', user able to do intervention and re-calculate the worksheet and do allocation again
- User able to allocate manually by click on  then alert message will be display as Figure 3.2.2-11

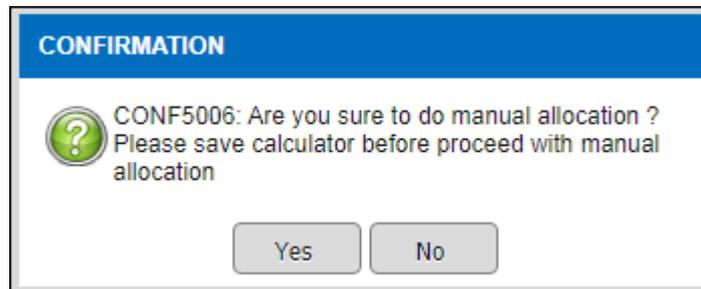


Figure 3.2.2-11 Confirmation Message

- Click Yes button then item batch details will be display as Figure 3.2.2-12

ITEM BATCH DETAILS

Drug Code:

Default SKU:

Drug Name:

BATCH DETAIL

[ 1 - 1 / 1 ]

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
17503011	12/12/2020	10	1	1

Total Location Quantity:

Total Allocated Quantity:

**Figure 3.2.2-12 Item Batch Details**

- Key in allocated quantity and the save the record

PREPARE WORKSHEET

Intervention  Auto Allocation

DETAIL

**Macronutrient**

Glucose  g

Lipid  g

Protein  g

**Electrolytes**

Sodium(Natrium),Na+  mmol

Potassium(Kalium),K+  mmol

**Vitamin**

Vitamin Solution  ml

Water soluble  ml

Fat soluble  ml

Calcium,Ca2+  mmol

Magnesium,Mg+  mmol

**Trace elements**

Acetate  mmol

L-Glutamin  ml

Phosphate,(PO4)2-  mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content							
						Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
<input type="text" value=""/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>					
Potassium Dihydrogen Phosphate Injection	0.1	1 amp	0 amp	0	0.2	0	0.1	0	0.1	0	0	0	0
Sodium Chloride 3% 500mL IV soln	1.96	1 bott	0 bott	0	2.02	0	0	1	0	0	0	1	0
Calcium Gluconate 10% Injection	4.42	1 amp	1 amp	0	2.92	0	0	0	0	1	0	0	0
Magnesium Sulphate 50% Injection (49.3%/5mL)	0.13	1 amp	1 amp	0	0.6	0	0	0	0	0	0.25	0	0
<input type="text" value=""/>	<input type="text" value="0"/>	Trace Elements											
<input type="text" value=""/>	<input type="text" value="0"/>	Combine Vitamin (Water & Fat Soluble)											
<input type="text" value=""/>	<input type="text" value="0"/>	Water Soluble Vitamins											
<input type="text" value=""/>	<input type="text" value="0"/>	Fat Soluble Vitamins											
<input type="text" value=""/>	<input type="text" value="0"/>	L-Glutamin											
<b>Total Preparation</b>	<b>6.61</b>			<b>0</b>	<b>888.38</b> mOsmol/L	<b>0</b>	<b>0.1</b>	<b>1</b>	<b>0.1</b>	<b>1</b>	<b>0.25</b>	<b>1</b>	<b>0</b>
					Content/L	<b>0</b>	<b>15.13</b>	<b>151.29</b>	<b>15.13</b>	<b>151.29</b>	<b>37.82</b>	<b>151.29</b>	

**Figure 3.2.2-13 Prepare Worksheet**

**Note**

- **Calorie (kcal), Osmolarity(mOsmol), Content and Total Preparation** after click calculate button these value will be calculated and displayed automatically by system as Figure 3.2.2-13.
- Checkbox  **Auto Allocation** will auto untick when user do manual allocate.
- **Allocated Quantity** column will be calculated and displayed automatically by system after click on the save button as per Figure 3.2.2-13.



**PN PREPARATION**

Age: 03 Years 02 Months 11 Days | Gender: Male | MRN: HPSF00275289

Address | Phone And Email | Diagnosis | Allergy: No Known Allergies | Vital Sign

Height: [ ] cm | Weight: 6.4 kg | BMI/BSA: 0/0 m<sup>2</sup> | Nationality: Warganegara

Encounter No: 0001 | Actual Admission Date: 04/04/2022 | Attending Practitioner: | Visit Location: WAD 4 | Room No/Bed No: | Rx No: WRD8800002731104 | Prescriber Dept.:

**PHARMACY ORDER**

Prepared Date/Time: 20/10/2022 02:30 PM

**PRESCRIPTION** | PROCEED TO DISPENSING | Prepare | Worksheet | Label | Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Soln 10, Starter without K+, 48.3kcal with Additive	100 ml	1 bag	Details	0 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 3.2-14 Prepare Preparation

**STEP 9**

Click on the  button to print the worksheet

**Note**

Worksheet will display as per Figure 3.2-15.



**PARENTERAL NUTRITION WORKSHEET**  
**MINISTRY OF HEALTH**  
**Hospital Seri Manjung**

Patient Name : SXXXXX XXXX XXX XXXXXXXX      Worksheet : A001-301019  
 MRN : HSM000015      Prepared Date/Time : 30/10/2019 04:08 PM  
 Ward/Bed No : FBW FILLING STATION      Prescription # : FBW\_FILL0000824856  
 Age : 58 Years 01 Months 13 Days  
 Gender : Male  
 Body Weight : 80 kg

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
PN Soln 100ml Starter Dext 10%	100	1 bag	T665	-
Sodium Chloride 3% 500mL IV soln	1.96	1 bottle	NA	1 mmol
Potassium Dihydrogen Phosphate Injection	0.1	1 ampoule	NA	0.1 mmol
Magnesium Sulphate 50% Injection (49.3%/5mL)	0.13	1 ampoule	646068	0.25 mmol
Calcium Gluconate 10% Injection	4.42	1 ampoule	17503011	1 mmol
TPN Volume Bag	106.61	1 Bag		

Worksheet Generated By : CHIAM ZYE WEI      Date : 30/10/2019  
 Worksheet and Label Checked By : \_\_\_\_\_      Supervised By : \_\_\_\_\_  
 Bag Prepared By : \_\_\_\_\_  
 Final Product Checked By : \_\_\_\_\_

Figure 3.2.2-15 Sample of PN Worksheet

**Note**

Sample of PN Worksheet as per Figure 3.2.2-15.

**PN PREPARATION**

Address: \_\_\_\_\_ Phone And Email: \_\_\_\_\_ Diagnosis: \_\_\_\_\_ Allergy: No Known Allergies  
 Height: \_\_\_\_\_ cm Weight: 6.4 kg BMI/BSA: 0/0 m<sup>2</sup> Nationality: Warganegara

Encounter No: 0001 Actual Admission Date: 04/04/2022 Attending Practitioner: Visit Location: WAD 4 Room No/Bed No: Rx No: WRD8800002731104 Prescriber Dept.:

**PHARMACY ORDER**  
Prepared Date/Time: 20/10/2022 02:30 PM

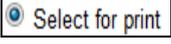
**PRESCRIPTION**       PROCEED TO DISPENSING               

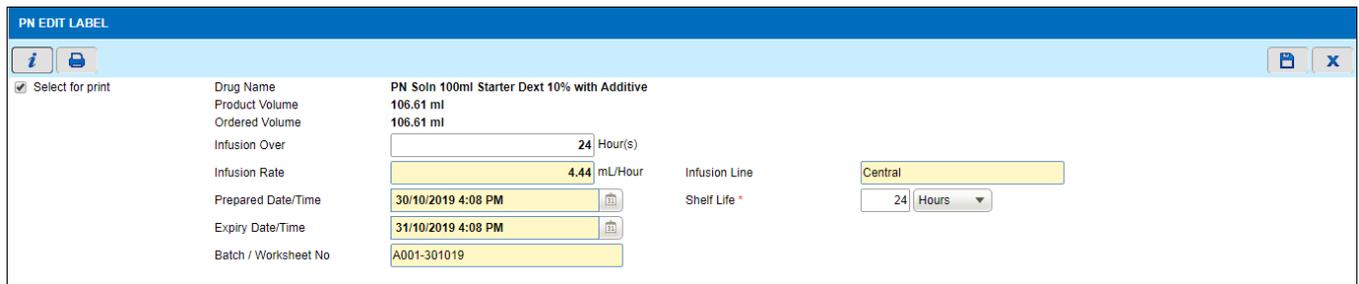
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Soln 10, Starter without K+, 48.3kcal with Additive	100 ml	1 bag	<a href="#">Details</a>	0 bag	1 bag	<a href="#">Details</a>	<a href="#">Remarks</a>	0 bag	VERIFIED

Figure 3.2.2-16 PN Preparation

**Note**

**Edit Label**

- Click on the  button to edit label as per Figure 3.2.2.16 and PN Edit Label window will display as per Figure 3.2.2-17.
- Select the  radio button to print label.
- User allowed to edit **Infusion Over**, and **Shelf Life** field.
- **Expiry Date** field will automatically calculated after filling the **Shelf Life** field.
- **Drug Name, Total Volume, Infusion Rate** and **Batch No** field will be displayed automatically by system.
- The  button to print label.
- The  button to close PN Edit Label window.
- Click  button to proceed with PN Outsource for Commercial with additive as per sub module 3.5



The screenshot shows the 'PN EDIT LABEL' window with the following fields and values:

<input checked="" type="checkbox"/> Select for print	Drug Name	PN Soln 100ml Starter Dext 10% with Additive
	Product Volume	106.61 ml
	Ordered Volume	106.61 ml
	Infusion Over	<input type="text" value="24"/> Hour(s)
	Infusion Rate	<input type="text" value="4.44"/> mL/Hour
	Prepared Date/Time	<input type="text" value="30/10/2019 4:08 PM"/>
	Expiry Date/Time	<input type="text" value="31/10/2019 4:08 PM"/>
	Batch / Worksheet No	<input type="text" value="A001-301019"/>
	Infusion Line	<input type="text" value="Central"/>
	Shelf Life *	<input type="text" value="24"/> Hours

**Figure 3.2.2-17 PN Edit Label**

**Note**

- PN Label will display as per figure 3.2.2-18.
- Additional content will be bolded description and value.

<b>HOSPITAL SERI MANJUNG</b>		
PN Soln 100ml Starter Dext 10% with Additive		
NAME : _____		
ID NO : _____		
AGE : 58 Years 01 Months 13 Days		
MRN : HSM000015	WARD/BED NO: FBW FILLING STATION	
Product Volume	106.61	ml/bag
Ordered	106.61	ml/bag
<b>Content</b>	<b>/ kg</b>	<b>/ bag</b>
Protein (g)	0.04	3.3
Dextrose (g)	0.12	10
Lipid (g)	0	0
Sodium (mmol)	0.03	2.5
Potassium (mmol)	0	0.1
Calcium (mmol)	0.03	2.2
Magnesium (mmol)	0.01	0.5
Phosphate (mmol)	0.01	0.86
Chloride (mmol)	0.01	1
Acetate (mmol)	0	0
Trace Element (ml)	0	0
Vitamins (ml)	0	0
Osmolarity (mOsm/l)	10.74	859.58
L-Glutamin (g)	0	0
Admin Date/Time :		
Infusion Rate	4.44	mL/Hrs
Infusion Over	24	Hrs
Prepared Date	30/10/2019 4:08 PM	
Worksheet ID :	Expiry Date :	Price : RM
A001-301019	31/10/2019	
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 24 Hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 3.2.2-18 Sample of PN Label

**PN PREPARATION**



Age 03 Years 02 Months 11 Days | Gender Male | MRN HPSF00275289

---

Address

Phone And Email

Diagnosis

Allergy: No Known Allergies

Vital Sign

---

Height  cm | Weight  kg | BMI/BSA  m<sup>2</sup>

Nationality: Warganegara

---

[Demographic](#) | [Medication Profile](#) | [Pharmacist Notes](#) | [Monitoring Parameter](#) | [Counselling History](#) | [Other Appointment](#)

**PHARMACY ORDER**

Encounter No: 0001 | Actual Admission Date: 04/04/2022 | Attending Practitioner: | Visit Location: WAD 4 | Room No/Bed No: | Rx No: WRD8800002731104 | Prescriber Dept.:

---

**PRESCRIPTION**

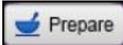
Prepared Date/Time: 20/10/2022 02:30 PM

PROCEED TO DISPENSING | Prepare | Worksheet | Label | Outsource

	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
▼	PN Soln 10, Starter without K+, 48.3kcal with Additive	100 ml	1 bag	<a href="#">Details</a>	0 bag	1 bag	<a href="#">Details</a>	<a href="#">Remarks</a>	0 bag	VERIFIED

**Figure 3.2.2-19 PN Preparation**

**STEP 10**

Click on the  button to prepare PN order and alert message will be displayed as per Figure 3.2.2-20

**CONFIRMATION**

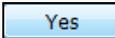
?

**INFO0577:** Please make sure already print worksheet and label before proceed to dispensing stage. Do you want to proceed with the preparation?

Cancel
Yes
No

**Figure 3.2.2-20 Preparation Confirmation Alert Message**

**STEP 11**

Click on the  button to confirm prepare order

**Note**

*Proceed to Dispensing function will allow user to advance to the next stage screen for each patient record.*



### 3.2.3 Preparation for Compounded Bag

#### 3.2.3.1 Preparation Compounded 3 in 1 Bag

##### Note

- Preparation (compounded) will allow user to prepare compounded bag. Worksheet and label can be printed after completing final calculation in preparation.
- Preparation for compounded have two product categories as 3 in 1 bag and 2 in 1 bag.
- To proceed with Preparation for Compounded, repeat **Step 1 to 4** from section **3.2.1 Preparation for Commercial**.

##### Order Details



- Click on the [Details](#) hyperlink (Order Details column) to view order details as per Figure 3.2.3.1-2.

**PN PREPARATION**

Prescription X

Mykad: [Redacted] Age: 55 Years 02 Months 14 Days Gender: Female MRN: HSM000031

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 156 cm Weight: 65 kg BMI/BSA: 26.7 / 1.68 m<sup>2</sup> (Last Updated: ) Nationality: Warganegara

Medication Profile | Counselling History | Pharmacist Notes | Demographic | Monitoring Parameter | Other Appointment

Encounter No: 0021 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: Outpatient Clinic Room No/Bed No: Rx No: OPD0000824619

**PHARMACY ORDER**

Prepared Date/Time: 14/10/2019 02:05 PM

**PRESCRIPTION** PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepared Sheet	Remarks	Prev Disp	Status
PN Compounded Adult	2800 ml	1 bag	<a href="#">Details</a>	1 bag	1 bag	<a href="#">Details</a> 1	Remarks	0 bag	VERIFIED

Figure 3.2.3.1-1 PN Preparation

**PN ORDER DETAILS**

Mykad: [Redacted] Age: 55 Years 02 Months 14 Days Gender: Female MRN: HSM000031

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 156 cm Weight: 65 kg BMI/BSA: 26.7 / 1.68 m<sup>2</sup> (Last Updated: ) Nationality: Warganegara

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Infusion Rate (ml/hour)	Quantity	Freq	Duration	Start Date / Time	End Date / Time
PN Compounded Adult	43.08 (2800)	26.23 (1705)	24	4.17 ml/hour	1 BAG	OD	1 Days	14/10/2019 05:00 PM	15/10/2019 05:00 PM
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (39)	1 (65)	1 (65)	0.1 (6.5)	0.1 (6.5)	NA	0.08 (5)	NA	NA	NA
L-Glutamin ml per kg (ml)	Protein g per kg (g)	Carbohydrate g per kg (g)	Lipid g per kg (g)	Calorie Calculator	Infusion Line				
1.54 (100)	1 (65)	3 (195)	1 (65)	NA	Central				
Intervention Reason			Intervention Remarks			Intervention Accepted			

Figure 3.2.3.1-2 PN Order Details

##### STEP 1



- Click on the [Details](#) hyperlink (Prepare Worksheet column) to prepare worksheet as per Figure 3.2.3.1-3

**PREPARE WORKSHEET**

Intervention  Auto Allocation

**DETAIL**

TPN volume  ml    Energy required  kcal    Product category  3 in 1  2 in 1 2

**Macronutrient**  
 Glucose  g  
 Lipid  g  
 Protein  g

**Vitamin**  
 Vitamin Solution  ml  
 Water soluble  ml  
 Fat soluble  ml

**Trace elements**  ml  
**Acetate**  mmol  
**L-Glutamin**  ml

**Electrolytes**  
 Sodium(Natrium),Na+  mmol  
 Potassium(Kalium),K+  mmol  
 Calcium,Ca2+  mmol  
 Magnesium,Mg+  mmol  
 Phosphate,(PO4)2-  mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content										
						Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
	<span style="border: 1px solid red; border-radius: 50%; padding: 2px;">3</span> 0		0	0	0	65	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	195	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasmal) 500ml IV Soln	0		0	0	0	0	0	65	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	39	0	0	0	0	0	0
Sodium Chloride 3% 500mL IV soln	0		0	0	0	0	0	0	0	0	65	0	0	0	0	0
Potassium Chloride 1g/10ml Injection	0		0	0	0	0	0	0	0	0	0	65	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	6.5	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	6.5	0	0
Trace Element - Paediatric (Peditrace) 10mL Inj	5		0	0	0	Trace Elements										
	0		0	0	0	Combine Vitamin (Water & Fat Soluble)										
	0		0	0	0	Water Soluble Vitamins										
	0		0	0	0	Fat Soluble Vitamins										
	100		0	0	0	L-Glutamin										
	0		0	0	0	Water For Injection										
Total Preparation	0			0	0	0	0	0	0	0	0	0	0	0	0	0
						Content/L	0	0	0	0	0	0	0	0	0	0

4

	NPC:N Ratio	
TOTAL content of Calcium and Phosphate	Calcium + Phosphate=	0 mmol/100ml
TOTAL content of Magnesium and Calcium	Calcium + Magnesium=	0 mmol/100ml

Figure 3.2.3.1-3 Prepare Worksheet

**STEP 2**

Select on the  3 in 1  2 in 1 radio button for product category

**Note**

- Value at top section will be displayed based on value to be prepared by pharmacist based on formula.
- **Macronutrient, Vitamin and Electrolytes** field will be displayed automatically by system.
- **Item selected, Volume (ml) and Content** column will be displayed automatically by system.

**STEP 3**

Select the item from the drop down box

**STEP 4**

Click on the button to calculate PN content value

**Note**

**Volume (ml), Order Quantity, Calorie (kcal), Osmolrity (mOsmol), Content and Total Preparation** will be automatically calculated and displayed by system as per figure 3.2.3.1-4.

**PREPARE WORKSHEET**

Intervention  Auto Allocation

**5**

**DETAIL**

TPN volume: 2800 ml    Energy required: 1705 kcal    Product category:  3 in 1    2 in 1

**Macronutrient**

Glucose: 195 g    Vitamin: Vitamin Solution [ ] ml    Trace elements: 5 ml

Lipid: 65 g    Water soluble: [ ] ml    Acetate: 0 mmol

Protein: 65 g    Fat soluble: [ ] ml    L-Glutamin: 100 ml

**Electrolytes**

Sodium(Natrium),Na+: 65 mmol    Calcium,Ca2+: 6.5 mmol    Phosphate,(PO4)2-: 39 mmol

Potassium(Kalium),K+: 65 mmol    Magnesium,Mg+: 6.5 mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content										
						Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
Fat emulsion, SMOFilipid 20% 100ml IV Soln	325	4 bott	0	585	94.25	65	0	0	0	0	0	0	0	0	0	0
Dextrose 50% 10mL Inj	390	39 amp	0	780	1084.2	0	195	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasma) 500ml IV Soln	433.33	1 bott	0	260	559	0	0	65	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	39	4 amp	0	0	78	0	0	0	0	39	0	39	0	0	0	0
Sodium Chloride 3% 500mL IV soln	127.45	1 bott	0	0	131.27	0	0	0	0	0	65	0	0	0	0	65
Potassium Chloride 1g/10ml Injection	19.4	2 amp	0	0	52.44	0	0	0	0	0	0	26	0	0	0	26
Calcium Gluconate 10% Injection	28.76	3 amp	0	0	18.98	0	0	0	0	0	0	0	6.5	0	0	0
Magnesium Sulphate 50% Injection (49.3%/5mL)	3.25	1 amp	0	0	14.95	0	0	0	0	0	0	0	0	6.5	0	0
Trace Element - Paediatric (Peditrace) 10mL Inj	5	1 amp	0	0	0.19	Trace Elements										
	0			0	0	Combine Vitamin (Water & Fat Soluble)										
	0			0	0	Water Soluble Vitamins										
	0			0	0	Fat Soluble Vitamins										
N(2)-L-alanyl-L-glutamine 20% (Dipeptivan) 100ml	100	1 bott	0	80	92.1	L-Glutamin										
Sterile Water for Injection 10mL	1328.8	133 amp	0	0	0	Water For Injection										
<b>Total Preparation</b>	<b>2800</b>			<b>1705</b>	<b>759.06</b> mOsmol/l	<b>65</b>	<b>195</b>	<b>65</b>	<b>0</b>	<b>39</b>	<b>65</b>	<b>65</b>	<b>6.5</b>	<b>6.5</b>	<b>6.5</b>	<b>91</b>
					<b>Content/L</b>	<b>23.21</b>	<b>69.64</b>	<b>23.21</b>	<b>0</b>	<b>13.93</b>	<b>23.21</b>	<b>23.21</b>	<b>2.32</b>	<b>2.32</b>	<b>32.5</b>	

Calculate

	NPC:N Ratio	131 : 1
TOTAL content of Calcium and Phosphate	Calcium + Phosphate=	1.63 mmol/100ml
TOTAL content of Magnesium and Calcium	Calcium + Magnesium=	0.46 mmol/100ml

Figure 3.2.3.1-4 Prepare Worksheet

**STEP 5**

Click on the button to save record and alert message will be displayed as per Figure 3.2.3.1-5

**Note**

- Once user click on the **Intervention** button, system will reset the allocated qty to '0', user able to do intervention and re-calculate the worksheet and do allocation again

**CONFIRMATION**

CONF0002: Are you sure you want to save?

**6**

Figure 3.2.3.1-5 Confirmation Alert Message

**STEP 6**

Click on the button to save record



**PN PREPARATION**

Prescription X

Mykad: [redacted] Age: 55 Years 02 Months 14 Days Gender: Female MRN: HSM000031

Address: [redacted] Phone And Email: [redacted] Diagnosis: [redacted] No known Allergies

Height: 156 cm Weight: 65 kg BMI/BSA: 26.7 / 1.68 m<sup>2</sup> Update (Last Updated: ) Nationality: Warganegara

Medication Profile | Counselling History | Pharmacist Notes | Demographic | Monitoring Parameter | Other Appointment |

Encounter No: 0021 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: Outpatient Clinic Room No/Bed No: Rx No: OPD0000824619

**PHARMACY ORDER**

Prepared Date/Time: 14/10/2019 02:05 PM **7**

**PRESCRIPTION**  PROCEED TO DISPENSING

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Adult	2800 ml	1 bag	<a href="#">Details</a>	1 bag	1 bag	<a href="#">Details</a>	<a href="#">Remarks</a>	0 bag	VERIFIED

Figure 3.2.3.1-6 PN Preparation

**STEP 7**

Click on the  button to print worksheet as per Figure 3.2.3.1-7

**Note**

- Proceed to Dispensing function will allow user advance to next stage screen for each patient record.
- Untick on the  [Auto Allocation](#) checkbox to allocate manually.

**ADULT PARENTERAL NUTRITION WORKSHEET**

**MINISTRY OF HEALTH**

**Hospital Full Based**

Patient Name	: OXXXX XXX XXXXXX	Worksheet	: A116-131016
MRN	: HPSF00028523	Prepared Date/Time	: 13/10/2016 03:11 PM
Ward/Bed No	: WAD 7 (MED - L)/B19	Prescription #	: 70000191335
Age	: 58 Years 11 Months 26 Days		
Gender	: Male		
Body Weight	: 67 kg		

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Amino acid 15% (Aminoplasmal) 500ml IV	893.33	2 bottle	123	134 g
Dextrose 50% IV soln 500ml	402	1 bottle	P1252129	201 g
Sterile Water for Inj 500mL	15.96	1 bottle	DMHPSF14	NA
Fat emulsion, Lipofundin MCT/LCT 20%	335	2 bottle	VV3456	67 g
Sodium Chloride 3% 500mL IV soln	131.37	1 bottle	P1124468	67 mmol
Potassium Dihydrogen Phosphate Injection	40.2	5 ampoule	sdfg	40.2 mmol
Magnesium Sulphate 50% Inj (49.3%/5mL)	1.68	1 ampoule	335074	3.35 mmol
Potassium Chloride 1g/10ml Inj	20	2 ampoule	14014	67 mmol
Calcium Gluconate 10% Inj	30.45	4 ampoule	502065	6.7 mmol
Trace Element-Adult (Addamel N) 10mL Inj	10	1 ampoule	124	10 ml
Vitamin A, D, E, K (Vitalipid N Adult) 10ml	10	1 ampoule	CF543	10 ml
Vitamin B and C (Soluvit N) 10 ml Inj	10	1 vial	80HF531	10 ml
Amino acid 20% (Dipeptivan) 100ml IV Soln	100	1 bottle	NGT543	100
TPN Volume Bag	2000	1 Bag		

Worksheet Generated By	: PharmacistTPN	Date	: 13/10/2016
Worksheet and Label Checked By	:	Supervised By	:
Bag Prepared By	:		
Final Product Checked By	:		

**Figure 3.2.3.1-7 Sample of Worksheet**

**PN PREPARATION**

Prescription X

	Mykad	Age 55 Years 02 Months 14 Days	Gender Female	MRN HSM000031
Address	Phone And Email	Diagnosis	No known Allergies	
Upload Photo	Height 156 cm Weight 65 kg BMI/BSA 26.7 / 1.68 m <sup>2</sup>	Update (Last Updated : ) Nationality : Warganegara		

[Medication Profile](#) | [Counselling History](#) | [Pharmacist Notes](#) | [Demographic](#) | [Monitoring Parameter](#) | [Other Appointment](#)

Encounter No: 0021 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: Outpatient Clinic Room No/Bed No: Rx No: OPD0000824619

**PHARMACY ORDER**

Prepared Date/Time 14/10/2019 02:05 PM

**PRESCRIPTION**

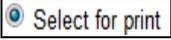
PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Adult	2800 ml	1 bag	<a href="#">Details</a>	1 bag	1 bag	<a href="#">Details</a>	<a href="#">Remarks</a>	0 bag	VERIFIED

**Figure 3.2.3.1-8 PN Preparation**

**Note**

**Edit Label**

- Click on the  button to edit label and PN Edit Label window will display as per Figure 3.2.3.1-9.
- Select the   radio button to print label.
- User allows to edit **Infusion Over**, and **Shelf Life** field.
- **Expiry Date** field will automatically calculated after filling the **Shelf Life** field.
- **Drug Name, Total Volume, Infusion Rate and Batch/Worksheet No** field will be displayed automatically by system.
- The  button to print label as per Figure 3.2.3.1-10.
- The  button to close PN Edit Label window.

**PN EDIT LABEL**

Print X

<input checked="" type="checkbox"/> Select for print	Drug Name	PN Compounded Adult		
	Total Volume	2500 ml		
	Infusion Over	<input type="text" value="24"/>	Hour(s)	
	Infusion Rate	<input type="text" value="104.17"/>	mL/Hour	Infusion Line <input type="text" value="Central"/>
	Prepared Date/Time	<input type="text" value="04/01/2023 1:11 PM"/>	Shelf Life *	<input type="text" value="24"/> Hours
	Expiry Date/Time	<input type="text" value="05/01/2023 1:11 PM"/>		
	Batch / Worksheet No	<input type="text" value="A001-040123"/>		

**Figure 3.2.3.1-9 PN Edit Label**

HOSPITAL MIRI		
PARENTERAL NUTRITION (Adult)		
NAME : _____		
ID NO : _____		
AGE : 61 Years 09 Months		
MRN : HKL232335	WARD/BED NO : Wad NW23 (Perubatan)	
Total 2399 ml/bag		
Content	/ kg	/ bag
Protein (g)	0	0
Dextrose (g)	4	220
Sodium (mmol)	1.1	60.5
Potassium (mmol)	0	0
Calcium (mmol)	0	0
Magnesium (mmol)	0	0
Phosphate (mmol)	0	0
Chloride (mmol)	1.1	60.5
Acetate (mmol)	0	0
Trace Element (ml)	0	0
Vitamins (ml)	0	0
Osmolarity (mOsm/l)	4.76	366.71
L-Glutamin (g)	0.38	29
Admin Date/Time :		
Infusion Rate	125	mL/Hrs
Infusion Over	24	Hrs
Prepared Date	29/05/2019 4:05 PM	
Worksheet ID :	Expiry Date :	Price : RM
A002-290519	30/05/2019	
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 24 Hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 3.2.3.1-10 Sample of PN Label

Prescription ✕

	<input type="text"/>	Mykad <input type="text"/>	Age 55 Years 02 Months 14 Days	Gender Female	MRN HSM000031
Address <input type="text"/>		Phone And Email <input type="text"/>	Diagnosis <input type="text"/>	No known Allergies	
Upload Photo	Height <input type="text" value="156"/> cm	Weight <input type="text" value="65"/> kg	BMI/BSA 26.7 / 1.68 m <sup>2</sup>	<input type="button" value="Update"/> (Last Updated : )	Nationality : Warganegara

[Medication Profile](#) | [Counseling History](#) | [Pharmacist Notes](#) | [Demographic](#) | [Monitoring Parameter](#) | [Other Appointment](#)

Encounter No: 0021 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: Outpatient Clinic Room No/Bed No: Rx No: OPD0000824619

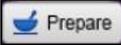
8

PROCEED TO DISPENSING

	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
▼	PN Compounded Adult	2800 ml	1 bag	<a href="#">Details</a>	1 bag	1 bag	<a href="#">Details</a>	<a href="#">Remarks</a>	0 bag	VERIFIED

**Figure 3.2.3.1-11 Sample of PN Label**

**STEP 8**

Click on the  button to prepare PN order

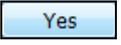
CONFIRMATION


CONF0060: Do you want to proceed with the preparation?

9

**Figure 3.2.3.1-12 Preparation Confirmation Alert Message**

**STEP 9**

Click on the  button to confirm prepare order



### 3.2.3.2 Preparation Compounded 2 in 1 Bag

**Note**

- If PN order is for pediatrics, pediatric infant or neonate, product category will default to 2 in 1.
- To proceed with Preparation for Compounded, repeat **Step 1 to 4** from section 3.2.1 Preparation for Commercial.

**Order Details**



- Click on the [Details](#) hyperlink to view order details as per Figure 3.2.3.2-2.

**PN PREPARATION**

Prescription

Mother IC: [Redacted] Age: 01 Years 01 Months 24 Days Gender: Male MRN: HTM00025458

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 48 cm Weight: 1.8 kg BMI/BSA: 7.8 / 0.15 m<sup>2</sup> (Last Updated: 05/09/2015) Nationality: Warganegara

Encounter No: 0136 Admission Date: 28/08/2015 Attending Practitioner: [Redacted] Visit Location: WAD 2 Rx No: NICU000029878

**PHARMACY ORDER**

Prepared Date/Time: 21/10/2016 02:24 AM

**PRESCRIPTION**  PROCEED TO DISPENSING [Prepare](#) [Worksheet](#) [Label](#) [Outsource](#)

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Neonate	252 ml	1 bag	<a href="#">Details</a>	1 bag	1 bag	<a href="#">Details</a> <b>1</b>	Remarks	0 bag	VERIFIED

Figure 3.2.3.2-1 PN Preparation

**STEP 1**



Click on the [Details](#) hyperlink to prepare worksheet as per Figure 3.2.3.2-3

**PN ORDER DETAILS**

Mother IC: [Redacted] Age: 09 Days Gender: Female MRN: HPSF00060075

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 35 cm Weight: 3.5 kg BMI/BSA: 28.6 / 0.21 m<sup>2</sup> (Last Updated: 22/12/2014)

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Infusion Rate (ml/hour)	Quantity	Freq	Duration	Start Date / Time	End Date / Time
PN Compounded Neonate	994.29 (3480)	52 (182)	24	NA	1 BAG	OD	1 Days	24/12/2014 05:00 PM	25/12/2014 05:00 PM
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Multi Vitamin ml per kg (ml)
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
L-Glutamin ml per kg (ml)	Protein g per kg (g)	Carbohydrate g per kg (g)	Lipid g per kg (g)	Calorie Calculator	Infusion Line				
NA	4 (14)	NA	4 (14)	NA	Central				

Figure 3.2.3.2-2 PN Order Details

**PREPARE WORKSHEET**

Intervention  Auto Allocation  📄 ✕

**DETAIL**

TPN volume  ml      Energy required  kcal      Product category  3 in 1  2 in 1 2

**Macronutrient**  
 Glucose  g      Vitamin  
 Lipid  g      Vitamin Solution  ml  
 Protein  g      Water soluble  ml  
 Electrolytes      Fat soluble  ml  
 Sodium(Natrium),Na+  mmol      Calcium,Ca2+  mmol      Phosphate,(PO4)2-  mmol  
 Potassium(Kalium),K+  mmol      Magnesium,Mg+  mmol

Trace elements  ml  
 Acetate  mmol  
 Overage volume  ml

Lipid Syringe  ml  
 Volume Without Lipid  ml  
 Lipid Overage Volume  ml

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Lipid (g)	
Vitamin A, D, E, K (Vitalipid N Infant) 10ml I	<input type="text" value="0"/>		0	0	0	0	Fat Soluble Vitamin
Vitamin B and C (P-Trovite) 10mL Inj	<input type="text" value="0"/>		0	0	0	0	Water Soluble Vitamin
Fat emulsion, SMOFlipid 20% 250ml IV Sol	<input type="text" value="0"/>		0	0	0	0	Lipid
Total Preparation	<input type="text" value="0"/>			0	0	0	
					mOsmol/l	<input type="text" value="0"/>	
					Content/L	<input type="text" value="0"/>	

📄 Calculate 4

PN Bag (Without lipid)

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content								
						Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)

Figure 3.2.3.2-3 Prepare Worksheet

**STEP 2**

Select on the  3 in 1  2 in 1 radio button for product category

**Note**

- Value at top section will be display based on value to be prepared by pharmacist based on formula.
- **Macronutrient, Vitamin and Electrolytes** field will automatically be displayed by system.

**STEP 3**

Select the item from the drop down box

**Note**

**Lipid Syringe**

- **Item selected, Volume (ml), Order Quantity, Calorie (kcal), Osmolrity(mOsmol), Lipid and Total Preparation** will be calculated and displayed automatically by system.
- **Lipid Overage** function provided.

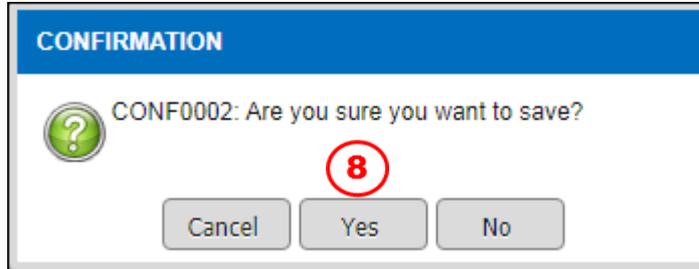
**STEP 4**

Click on the Calculate button to calculate PN content value



**STEP 7**

Click on button to save record



**Figure 3.2.3.2-6 Confirmation Alert Message**

**STEP 8**

Click on the button to confirm save record

**PREPARE WORKSHEET**

Intervention  Auto Allocation

**DETAIL**

TPN volume  ml      Energy required  kcal      Product category  3 in 1  2 in 1

**Macronutrient**

Glucose  g      Vitamin  ml      Trace elements  ml      Lipid Syringe  ml

Lipid  g      Vitamin Solution  ml      Acetate  mmol      Volume Without Lipid  ml

Protein  g      Water soluble  ml      Overage volume  ml      Lipid Overage Volume  ml

Electrolytes

Sodium(Natrium),Na+  mmol      Calcium,Ca2+  mmol      Phosphate,(PO4)2-  mmol

Potassium(Kalium),K+  mmol      Magnesium,Mg+  mmol

**Lipid Syringe**

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Lipid (g)	
Vitamin A, D, E, K (Vitalipid N Infant) 10ml I	0		0	0	0	0	Fat Soluble Vitamin
Vitamin B and C (P-Trovite) 10mL Inj	0		0	0	0	0	Water Soluble Vitamin
Fat emulsion, SMOFlipid 20% 100ml IV Sol	0		0	0	0	65	Lipid
<b>Total Preparation</b>	<input type="text" value="0"/>			<input type="text" value="0"/>	<input type="text" value="0"/> mOsmol/l	<input type="text" value="0"/>	
						<input type="text" value="0"/> Content/L	

Calculate

**PN Bag (Without lipid)**

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content									
						Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
Dextrose 50% 10mL Inj	0			782.79	0	195.7	0	0	0	0	0	0	0	0	0
Amino acid 13.4% (Glamin) 500ml IV Soln	0			260.93	0	0	65.23	0	0	0	0	0	0	0	0
Sodium Acetate 2mmol/ml Injection	0			0	0	0	0	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	0			0	0	0	0	0	39.14	0	0	0	0	0	0
Sodium Chloride 3% 500mL IV soln	0			0	0	0	0	0	0	65.23	0	0	0	0	0
Potassium Chloride 1g/10ml Injection	0			0	0	0	0	0	0	0	65.23	0	0	0	0
Calcium Gluconate 10% Injection	0			0	0	0	0	0	0	0	0	6.52	0	0	0
Magnesium Sulphate 50% Injection (49.3%/5mL)	0			0	0	0	0	0	0	0	0	0	6.52	0	0
Trace Element - Paediatric (Peditrace) 10mL Inj	5.02			0	0	Trace Elements									
Sterile Water for Injection 10mL	2804.98	281 amp	0	0	0	Water For Injection									
<b>Total Preparation</b>	<input type="text" value="2810"/>			<input type="text" value="1043.71"/>	<input type="text" value="0"/> mOsmol/l	<input type="text" value="195.7"/>	<input type="text" value="65.23"/>	<input type="text" value="0"/>	<input type="text" value="39.14"/>	<input type="text" value="65.23"/>	<input type="text" value="65.23"/>	<input type="text" value="6.52"/>	<input type="text" value="6.52"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
						<input type="text" value="69.64"/> Content/L	<input type="text" value="23.21"/>	<input type="text" value="0"/>	<input type="text" value="13.93"/>	<input type="text" value="23.21"/>	<input type="text" value="23.21"/>	<input type="text" value="2.32"/>	<input type="text" value="2.32"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Calculate

NPC:N Ratio		<input type="text" value="71 : 1"/>
TOTAL content of Calcium and Phosphate	Calcium + Phosphate=	<input type="text" value="1.62"/> mmol/100ml
TOTAL content of Magnesium and Calcium	Calcium + Magnesium=	<input type="text" value="0.46"/> mmol/100ml

**Figure 3.2.3.2-7 Prepare Worksheet**



**PN PREPARATION** Prescription X

	Mother IC	Age 09 Days	Gender Female	MRN HPSF00060075
Address	Phone And Email	Diagnosis	No known Allergies	
Height 35 cm	Weight 3.5 kg	BMI/BSA 28.6 / 0.21 m <sup>2</sup>	Update (Last Updated : 22/12/2014 )	

Upload Photo Nationality : Warganegara

Encounter No: 0004 Admission Date: 22/12/2014 Attending Practitioner: Visit Location: WAD 3 (ORTO - L)

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment

**PHARMACY ORDER**

Prepared Date/Time: 24/12/2014 05:34 PM 9

**PRESCRIPTION** PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Neonate	3480 ml	1 Bag	Details	1 Bag	1 Bag	Details	Remarks	0 Bag	VERIFIED

Figure 3.2.3.2-8 PN Preparation

**STEP 9**

Click on the  button to print the worksheet as per Figure 3.2.3.2-8

**ADULT PARENTERAL NUTRITION WORKSHEET**

**MINISTRY OF HEALTH**

**HOSPITAL KUALA LUMPUR**

Patient Name	: ██████████	Worksheet	: A002-190719
MRN	: HKL232335	Prepared Date/Time	: 19/07/2019 11:09 AM
Ward/Bed No	: Wad NW23 (Perubatan)	Prescription #	: NW230000740528
Age	: 61 Years 07 Months 28 Days		
Gender	: Female		
Body Weight	: 55 kg		

\*This worksheet includes overage volume (if any)

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Dextrose 50% IV soln 500ml	443.67	1 bottle	0001	221.83 g
Sterile Water for Injection 500mL	1957.49	4 bottle	0001	NA
Sodium Chloride 20% Inj	17.84	2 ampoule	THA57023	61 mmol
<b>Total Volume</b>	<b>2419</b>	<b>1 Bag</b>		

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Fat emulsion, SMOFlipid 20% 500ml IV Soln	194.73	1 bottle	0001	38.95 g
Vitamin A, D, E, K (Vitalipid N Infant) 10ml Inj	5.12	1 ampoule	10LH3355	5.12 ml
Vitamin B and C (P-Trovite) 10mL Inj	6.15	1 pair	180103T/180104T	6.15 ml
<b>Total Volume</b>	<b>206</b>	<b>1 Syringe</b>		

**Figure 3.2.3.2-9 Sample of Worksheet**

**Note**

- Worksheet will be printed with additional disclaimer in worksheet, 'This worksheet includes overage volume (if any)'.
- For 2 in 1 which have Overage Volume, Worksheet will display value including Overage Volume value but in PN Bag label and PN Lipid label will display value exclude Overage Volume value.

**PN PREPARATION**

Prescription [X]

Mother IC: [ ] Age: 09 Days Gender: Female MRN: HPSF00060075

Address: [ ] Phone And Email: [ ] Diagnosis: [ ] No known Allergies

Height: 35 cm Weight: 3.5 kg BMI/BSA: 28.6 / 0.21 m<sup>2</sup> (Last Updated: 22/12/2014) Nationality: Warganegara

Encounter No: 0004 Admission Date: 22/12/2014 Attending Practitioner: [ ] Visit Location: WAD 3 (ORTO - L)

**PHARMACY ORDER**

Prepared Date/Time: 24/12/2014 05:34 PM

**PRESCRIPTION** [PROCEED TO DISPENSING] [Prepare] [Worksheet] [Label] [Outsource]

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Neonate	3480 ml	1 Bag	Details	1 Bag	1 Bag	Details	Remarks	0 Bag	VERIFIED

Figure 3.2.3.2-10 PN Preparation

**Note**

**Edit Label**

Click on the  button to edit label and PN Edit Label window will display as per Figure 3.2.3.2-11.

**PN EDIT LABEL**

Select for print   

Drug Name: PN Compounded Adult  
Total Volume: 3100 ml  
Infusion Over: 24 Hour(s)  
Infusion Rate: 129.17 mL/Hour  
Prepared Date/Time: 27/09/2019 2:11 PM  
Expiry Date/Time: 28/09/2019 2:11 PM  
Batch / Worksheet No: A001-270919

Infusion Line: Central  
Shelf Life: 24 Hours

---

Select for print

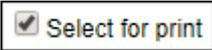
Lipid Bag  
Drug Name: Lipid And Vitamins  
Total Volume: 0 mL  
Infusion Over: 24 Hour(s)  
Infusion Rate: 0.04 mL/Hour  
Prepared Date/Time: 27/09/2019 2:11 PM  
Expiry Date/Time: 28/09/2019 2:11 PM  
Batch / Worksheet No: A001-270919

Shelf Life: 24 Hours

Figure 3.2.3.2-11 PN Edit Label

**Note**

**PN Compounded Pediatric**

- Select the  radio button to print label.
- User allows to edit **Infusion Over** and **Shelf Life** field.
- **Expiry Date** field will automatically calculated after the **Shelf Life** field is filled.
- **Drug Name, Total Volume, Infusion Rate** and **Batch No** field will be displayed automatically by the system.
- The  button to print label.
- The  button to close PN Edit Label window.

<b>HOSPITAL PAKAR SULTANAH FATIMAH, MUAR</b>		
PARENTERAL NUTRITION (Adult)		
NAME : _____		
ID NO : _____		
AGE : 30 Years 04 Months 29 Days		
MRN : HPSF00268220	WARD/BED NO : KLINIK PAKAR PEMBEDAHAN	
Total _____ 3100 ml/bag		
<b>Content</b>	<b>/ kg</b>	<b>/ bag</b>
Protein (g)	0	0
Dextrose (g)	0	0
Sodium (mmol)	0	0
Potassium (mmol)	0	0
Calcium (mmol)	0	0
Magnesium (mmol)	0	0
Phosphate (mmol)	0	0
Chloride (mmol)	0	0
Acetate (mmol)	0	0
Trace Element (ml)	0	0
Vitamins (ml)	0	0
Calories (kcal)	0	0
Osmolarity (mOsm/l)	0	0
Admin Date/Time :		
Infusion Rate	129.17 ml/hrs	
Infusion Over	24 Hrs	
Prepared Date	27/09/2019 2:11 PM	
Worksheet ID :	Expiry Date :	Price : RM
A001-270919	28/09/2019	
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 24 Hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 3.2.3.2-12 Sample PN Label

PN EDIT LABEL

<input type="checkbox"/> Select for print	Drug Name Total Volume Infusion Over Infusion Rate Prepared Date/Time Expiry Date/Time Batch / Worksheet No	PN Compounded Adult 3100 ml <input type="text" value="24"/> Hour(s) <input type="text" value="129.17"/> mL/Hour <input type="text" value="27/09/2019 2:11 PM"/> <input type="text" value="28/09/2019 2:11 PM"/> <input type="text" value="A001-270919"/>	Infusion Line Shelf Life *	<input type="text" value="Central"/> <input type="text" value="24"/> Hours
---	---	--	-------------------------------	---

---

<input checked="" type="checkbox"/> Select for print	Lipid Bag Drug Name Total Volume Infusion Over Infusion Rate Prepared Date/Time Expiry Date/Time Batch / Worksheet No	Lipid And Vitamins 0 mL <input type="text" value="24"/> Hour(s) <input type="text" value="0.04"/> mL/Hour <input type="text" value="27/09/2019 2:11 PM"/> <input type="text" value="28/09/2019 2:11 PM"/> <input type="text" value="A001-270919"/>	Shelf Life *	<input type="text" value="24"/> Hours
--	--	--	--------------	---------------------------------------

Figure 3.2.3.2-13 PN Edit Label

**Note**

**Lipid Bag**

- Select the **Select for print** radio button to print label.
- User allows to edit **Infusion Over**, and **Shelf Life** field.
- **Expiry Date** field will automatically calculated after filling the **Shelf Life** field.
- **Drug Name**, **Total Volume**, **Infusion Rate** and **Batch No** field will be displayed automatically by system.
- The button to print label.
- The button to close PN Edit Label window.

HOSPITAL PAKAR SULTANAH FATIMAH,			
NAME	[REDACTED]		
ID NO	[REDACTED]		
MRN	HPSF00268220		
WARD/ BED NO	KLINIK PAKAR		
Lipid	40000 mL	Infusion Rate	1666.6 ml/hr
Fat Soluble	0 mL	Worksheet ID	A003-270919
Water Soluble	0 mL	Exp Date	28/09/2019 4:12 PM
Total Vol	40000 mL	Date Prepared	27/09/2019 4:12 PM
Calories	7200 kcal	Price (RM)	
(Keep refrigerated)			

HOSPITAL PAKAR SULTANAH FATIMAH,			
NAME	[REDACTED]		
ID NO	[REDACTED]		
MRN	HPSF00268220		
WARD	KLINIK PAKAR PEMBEDAHAN		
Lipid	40000 mL	Infusion Rate	1666.6 ml/hr
Fat Soluble	0 mL	Worksheet ID	A003-270919
Water Soluble	0 mL	Exp Date	28/09/2019 4:12 PM
Total Vol	40000 mL	Date Prepared	27/09/2019 4:12 PM
Calories	7200 kcal	Price (RM)	
(Keep refrigerated)			

HOSPITAL PAKAR SULTANAH FATIMAH,			
NAME	[REDACTED]		
ID NO	[REDACTED]		
MRN	HPSF00268220		
WARD	KLINIK PAKAR PEMBEDAHAN		
Lipid	40000 mL	Infusion Rate	1666.6 ml/hr
Fat Soluble	0 mL	Worksheet ID	A003-270919
Water Soluble	0 mL	Exp Date	28/09/2019 4:12 PM
Total Vol	40000 mL	Date Prepared	27/09/2019 4:12 PM
Calories	7200 kcal	Price (RM)	
(Keep refrigerated)			

Figure 3.2.3.2-14 Sample of PN Label

**Note**

*It will print 3 set of label in one page.*

**PN PREPARATION**

Prescription X

Mother IC: [ ] Age: 09 Days Gender: Female MRN: HPSF00060075

Address: [ ] Phone And Email: [ ] Diagnosis: [ ] No known Allergies

Height: 35 cm Weight: 3.5 kg BMI/BSA: 28.6 / 0.21 m<sup>2</sup> (Last Updated: 22/12/2014) Nationality: Warganegara

Encounter No: 0004 Admission Date: 22/12/2014 Attending Practitioner: [ ] Visit Location: WAD 3 (ORTO - L)

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment

**PHARMACY ORDER**

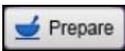
Prepared Date/Time: 24/12/2014 05:34 PM **10**

**PRESCRIPTION** PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Neonate	3480 ml	1 Bag	Details	1 Bag	1 Bag	Details	Remarks	0 Bag	VERIFIED

Figure 3.2.3.2-15 PN Preparation

**STEP 10**

Click on the  button to prepare PN order

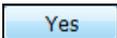
**CONFIRMATION**

CONF0060: Do you want to proceed with the preparation? **11**

Yes No

Figure 3.2.3.2-16 Preparation Confirmation Alert Message

**STEP 11**

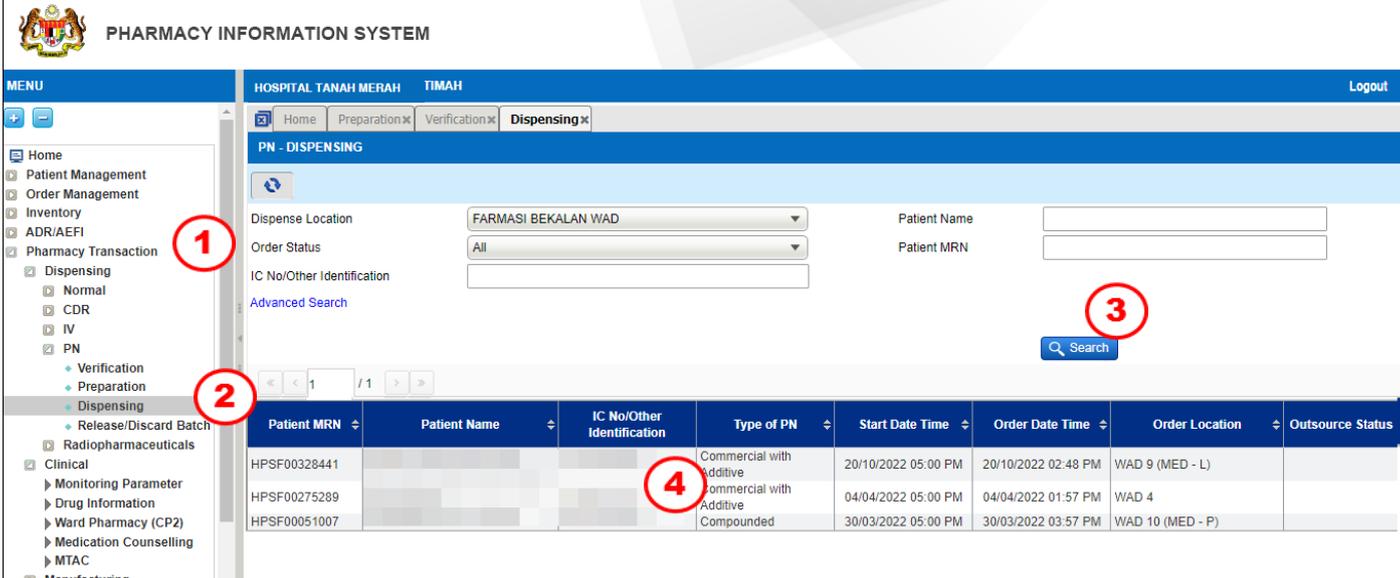
Click on the  button to confirm prepare order

**Note**

Proceed to Dispensing function will allow user to go next screen for each patient record.

### 3.3 Parenteral Nutrition (PN) Dispensing

Dispensing screen allows user to dispense all prepared bag.



**PHARMACY INFORMATION SYSTEM**

HOSPITAL TANAH MERAH TIMAH

Home Preparation Verification Dispensing

PN - DISPENSING

Dispense Location: FARMASI BEKALAN WAD Patient Name:

Order Status: All Patient MRN:

IC No/Other Identification:

Advanced Search

Search

Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location	Outsource Status
HPSF00328441			Commercial with Additive	20/10/2022 05:00 PM	20/10/2022 02:48 PM	WAD 9 (MED - L)	
HPSF00275289			Commercial with Additive	04/04/2022 05:00 PM	04/04/2022 01:57 PM	WAD 4	
HPSF00051007			Compounded	30/03/2022 05:00 PM	30/03/2022 03:57 PM	WAD 10 (MED - P)	

Figure 3.3-1 PN Dispensing Listing Page

#### STEP 1

Click on 'Pharmacy Transaction' menu follow by 'Dispensing' sub menu and select 'PN'

#### STEP 2

Click on 'Dispensing' menu

#### STEP 3

Click on Search button  to search patient

#### Note

Search result of patient record list will be displayed:

- Patient MRN
- Patient Name
- IC Number/Other Identification
- Type of PN
- Order Date Time
- Order Location
- Outsource Status

#### STEP 4

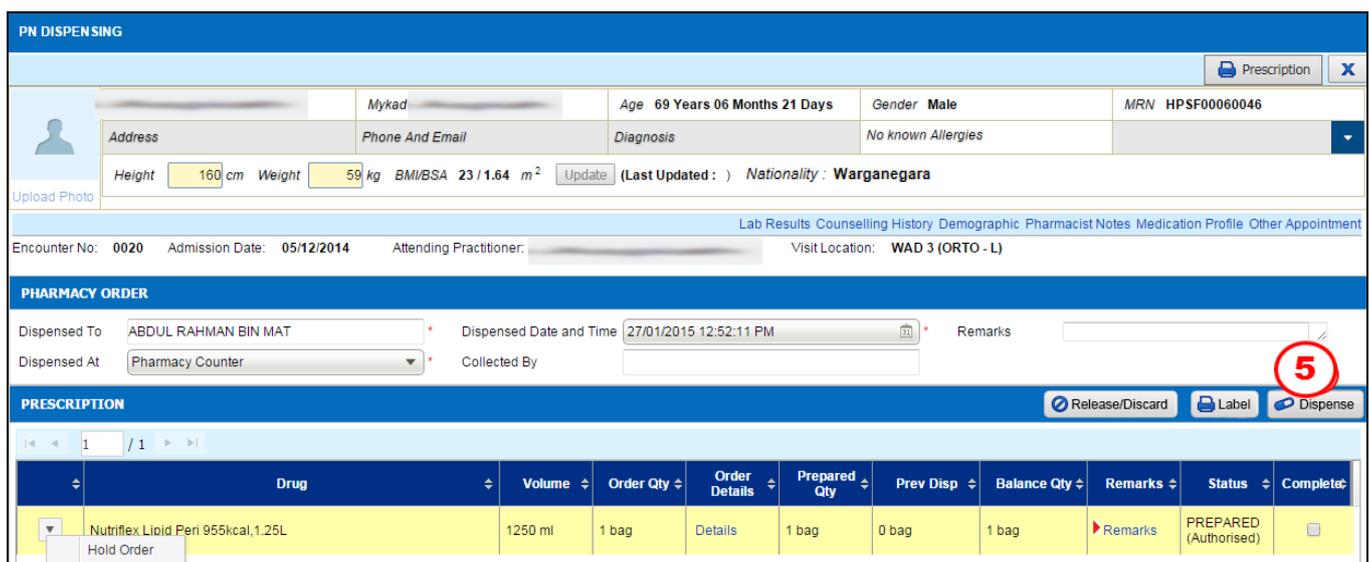
Double click on record and PN Dispensing screen will be displayed as Figure 3.3-2

**Note**

Search patient record based: -

Basic Search			
No	Field	Description	Remark
a	Dispense Location	Dispensing location. (It will list down all active dispensing location)	Able to filter and search patient name by dispensing location
b	Order Status	Search by: - All - Prepared - Prepared hold	Able to filter and search patient name by order status
c	Patient Name	Patient Name	Allow to search by full name or partial
d	Patient MRN	Patient Medical Record Number	Search option: Type the MRN either full or partial: <i>Example: HPSF00001234 or "1234"</i>
e	IC Number/Other Identification	Patients Identification Number	Allow to search by patients Identification number
Advance Search			
a	Order Location Type	Search by: All Clinic Day Care ER Nursing Unit Pharmacy	Able to filter and search patient name by order location type
b	Order Location	Current visit Location	Able to filter and search patient name by visit location
c	Order Date From	Order confirmed date	Allow to search by start date of order created
d	Order Date To	Order confirmed date	Allow to search by selected range of order created

**Table 3.3-1: Search Criteria**



The screenshot displays the 'PN DISPENSING' interface. At the top, there is a 'Prescription' button. Below it, patient information is shown, including Mykad, Age (69 Years 06 Months 21 Days), Gender (Male), MRN (HPSF00060046), Address, Phone And Email, Diagnosis, and No known Allergies. Patient vitals like Height (160 cm) and Weight (59 kg) are also visible. The 'PHARMACY ORDER' section shows 'Dispensed To' as ABDUL RAHMAN BIN MAT, 'Dispensed Date and Time' as 27/01/2015 12:52:11 PM, and 'Dispensed At' as Pharmacy Counter. A red circle with the number '5' highlights a button in this section. The 'PRESCRIPTION' table at the bottom lists one item: Nutriflex Lipid Peri 955kcal, 1.25L, with a volume of 1250 ml, order quantity of 1 bag, and a status of 'PREPARED (Authorised)'. A 'Hold Order' button is visible next to the first row of the table.

**Figure 3.3-2 PN Dispensing**

**Note**

- Click on the  button to select **Hold Order** as per Figure 3.3-2.

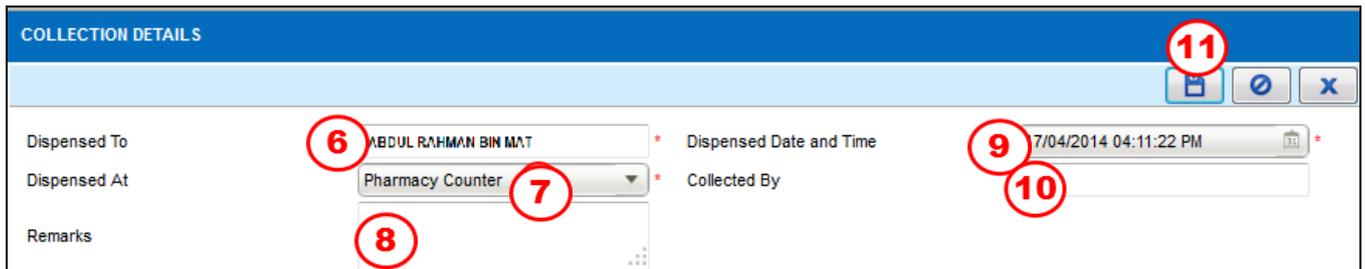
- User only can do **Hold/Resume Order** at Dispensing screen.



- Check at  checkbox to force close order by Pharmacist.

#### STEP 5

Click on the  button and Collection Details will display as per Figure 3.3-3



The screenshot shows a 'COLLECTION DETAILS' window with the following fields and callouts:

- 6**: Dispersed To field containing 'ABDUL RAHMAN BIN MAT'
- 7**: Dispersed At dropdown menu showing 'Pharmacy Counter'
- 8**: Remarks text area
- 9**: Dispersed Date and Time field showing '7/04/2014 04:11:22 PM'
- 10**: Collected By text field
- 11**: Window title bar and control buttons (minimize, maximize, close)

Figure 3.3-3 Collections Details

#### STEP 6

Enter **Dispersed To**

#### Note

- **Dispersed To**, **Dispersed Date and Time** and **Dispersed At** fields are automatically defaulted by system but user can still amend the field if applicable.
- All this three fields are mandatory.

#### STEP 7

Select **Dispersed At**

#### STEP 8

Enter **Remarks**

#### STEP 9

Select **Dispersed Date and Time**

#### STEP 10

Enter **Collected By**

#### STEP 11

Click on the  button and alert message will be displayed as per Figure 3.3-4

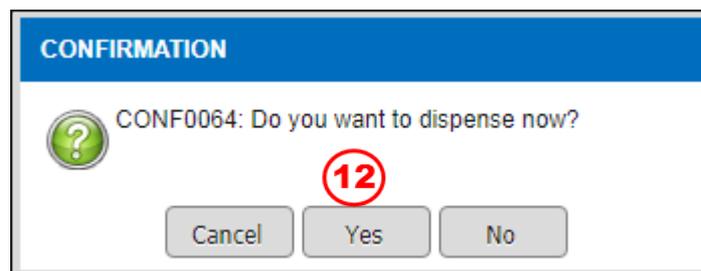


Figure 3.3-4 Confirmation Alert Message

#### STEP 12

Click on the  button to dispense order

### 3.4 Release/Discard Batch

Release function is to release and update back stock into inventory. Discard function is to discard stock from inventory even without dispensing.

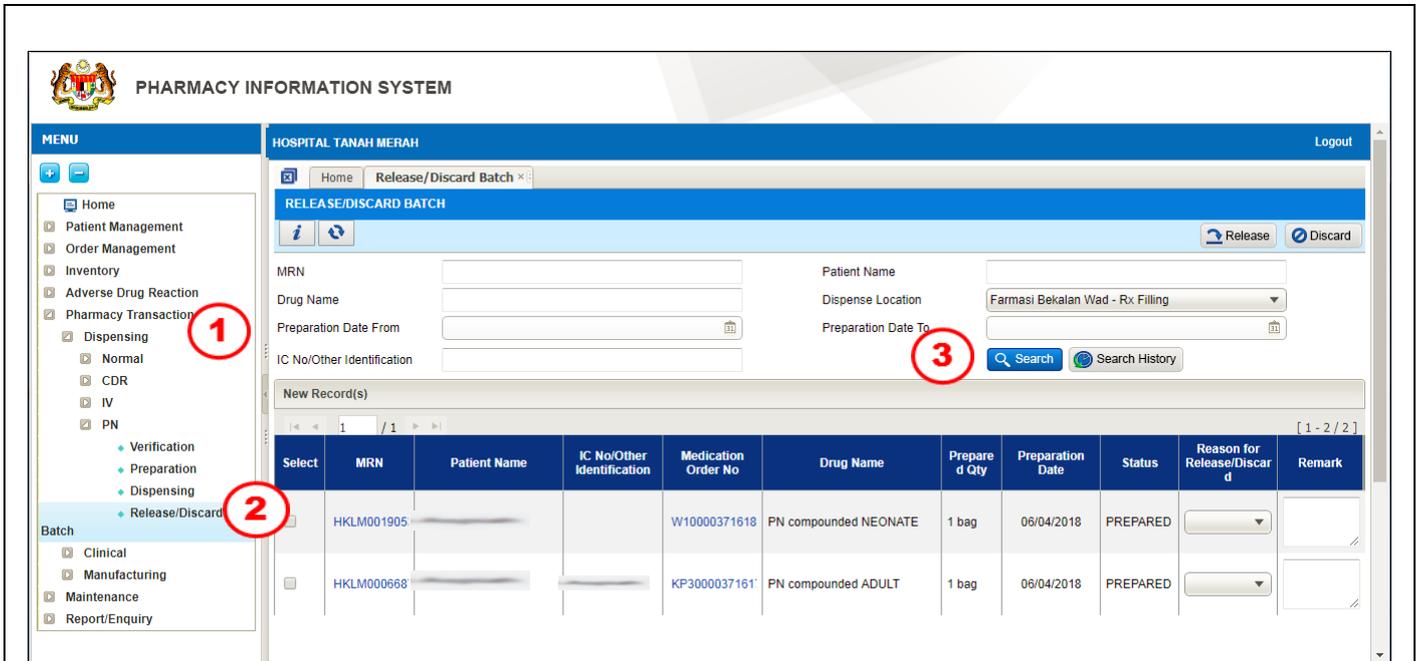


Figure 3.4-1 Release/Discard Batch Listing Page

#### STEP 1`

Click on 'Pharmacy Transaction' menu follow by 'Dispensing' sub menu and select 'PN'

#### STEP 2

Click on 'Release/Discard Batch' function

#### Note

Search patient record based: -

No	Field	Description	Remark
a	MRN	Patient Medical Record Number	Search option: • Type the MRN either full or partial: <i>Example: HPSF00001234 or "1234"</i>
b	Patient Name	Patient Name	Allow to search by full name or partial
c	Drug Name	Drug Name	Allow to search by full name or partial drug name
d	Dispense Location	Dispensing location. (It will list down all active dispensing location)	Able to filter and search patient name by dispensing location
e	IC Number/Other Identification	Patients Identification Number	Allow to search by patients Identification number
f	Preparation Date From	Preparation Date	Able to filter by preparation date from
g	Preparation Date To	Preparation Date	Able to filter by preparation date to

Table 3.4-1: Patient Record Search

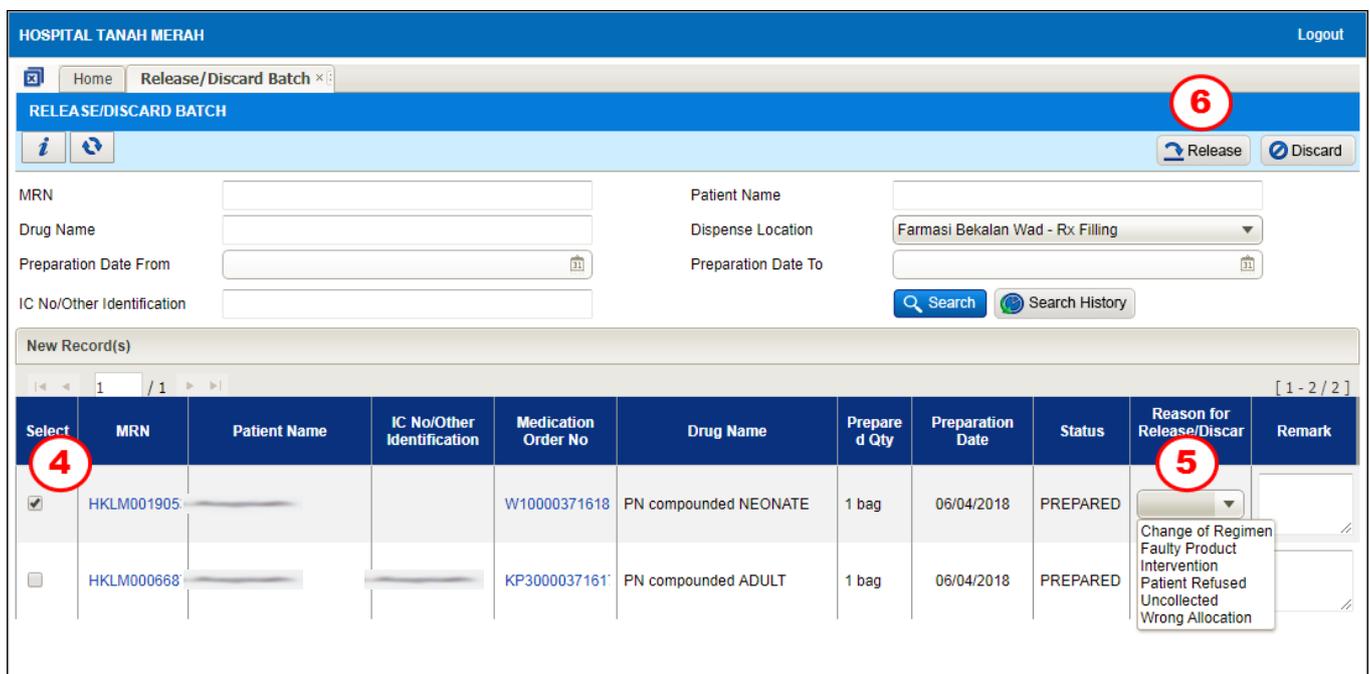
#### STEP 3

Click on the Search button to search patient

**Note**

Search result of patient record list will be displayed:

- MRN
- Patient Name
- IC Number/Other Identification Number
- Drug Name
- Medication Order No
- Preparation Date
- Prepared Quantity
- Status
- Reason for Discard
- Remarks



HOSPITAL TANAH MERAH Logout

Home Release/Discard Batch ×

**RELEASE/DISCARD BATCH** 6

Release Discard

MRN  Patient Name

Drug Name  Dispense Location

Preparation Date From  Preparation Date To

IC No/Other Identification

New Record(s)

Select	MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
<input checked="" type="checkbox"/>	HKLM001905			W10000371618	PN compounded NEONATE	1 bag	06/04/2018	PREPARED	5	
<input type="checkbox"/>	HKLM000668			KP3000037161	PN compounded ADULT	1 bag	06/04/2018	PREPARED		

Change of Regimen  
Faulty Product  
Intervention  
Patient Refused  
Uncollected  
Wrong Allocation

**Figure 3.4-2 Release/Discard Batch**

**STEP 4**

Select and check the  checkbox to select order at the **Select** column

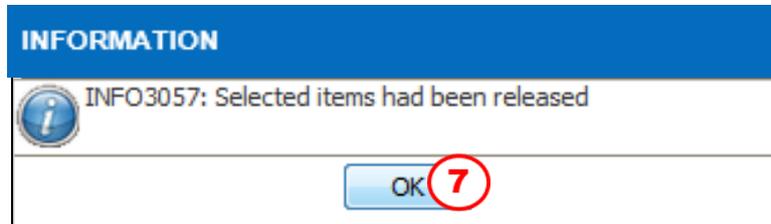
**STEP 5**

Select the **Reason for Release and Discard** from dropdown box:

- Change of Regimen
- Faulty Product
- Intervention
- Patient Refused
- Uncollected
- Wrong Allocation

**STEP 6**

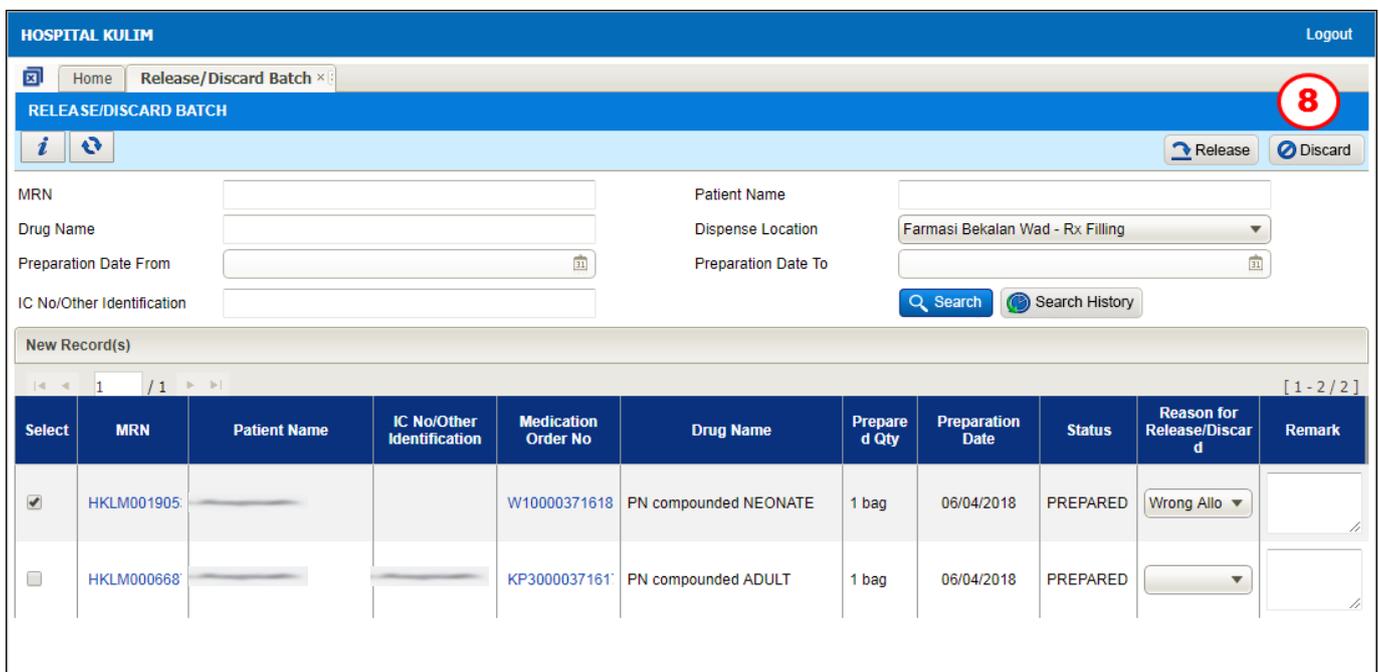
Click on the  button to release batch and inventory stock will be updated



**Figure 3.4-3 Information Alert Message**

**STEP 7**

Click on the  button to release order batch



**HOSPITAL KULIM** Logout

Home Release/Discard Batch ×

**RELEASE/DISCARD BATCH** 8

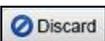
MRN:  Patient Name:   
 Drug Name:  Dispense Location: Farmasi Bekalan Wad - Rx Filling  
 Preparation Date From:  Preparation Date To:   
 IC No/Other Identification:

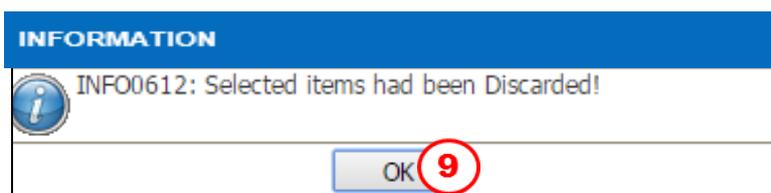
New Record(s)

Select	MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
<input checked="" type="checkbox"/>	HKLM001905			W10000371618	PN compounded NEONATE	1 bag	06/04/2018	PREPARED	Wrong Allo	
<input type="checkbox"/>	HKLM000668			KP3000037161	PN compounded ADULT	1 bag	06/04/2018	PREPARED		

**Figure 3.4-4 Release / Discard Batch**

**STEP 8**

Click on the  button to discard batch and inventory stock will be updated



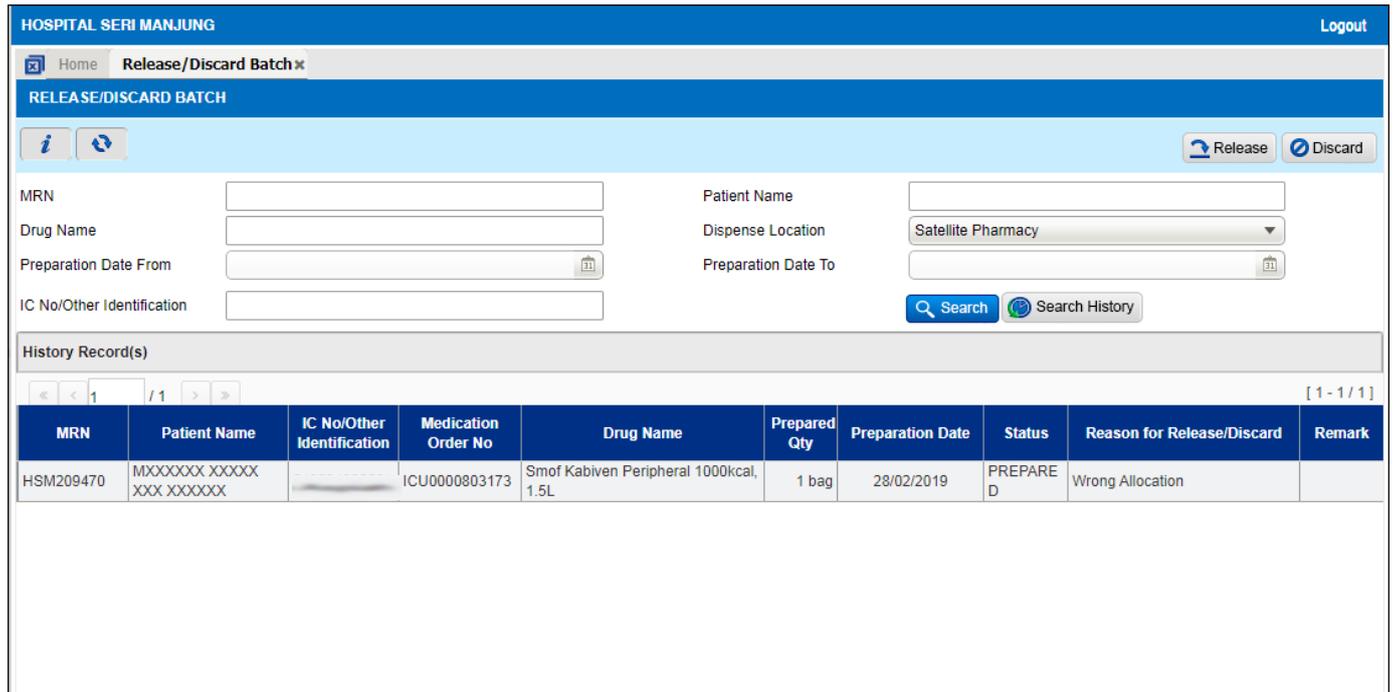
**Figure 3.4-5 Information Alert Message**

**STEP 9**

Click on the  button to discard batch

**Note**

Click on the  button to view release/discard history as Figure 3.4-6.



**HOSPITAL SERI MANJUNG** Logout

Home **Release/Discard Batch**

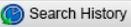
**RELEASE/DISCARD BATCH**

MRN  Patient Name

Drug Name  Dispense Location

Preparation Date From  Preparation Date To

IC No/Other Identification   

History Record(s) [ 1 - 1 / 1 ]

MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
HSM209470	XXXXXXXX XXXXX XXX XXXXXX		ICU0000803173	Smof Kabiven Peripheral 1000kcal, 1.5L	1 bag	28/02/2019	PREPARED	Wrong Allocation	

**Figure 3.4-6 Release/Discard Batch**

### 3.5 Outsource

Outsource allow user to send preparation request to another facility through PhIS for PN Commercial with additive and PN Compounded order

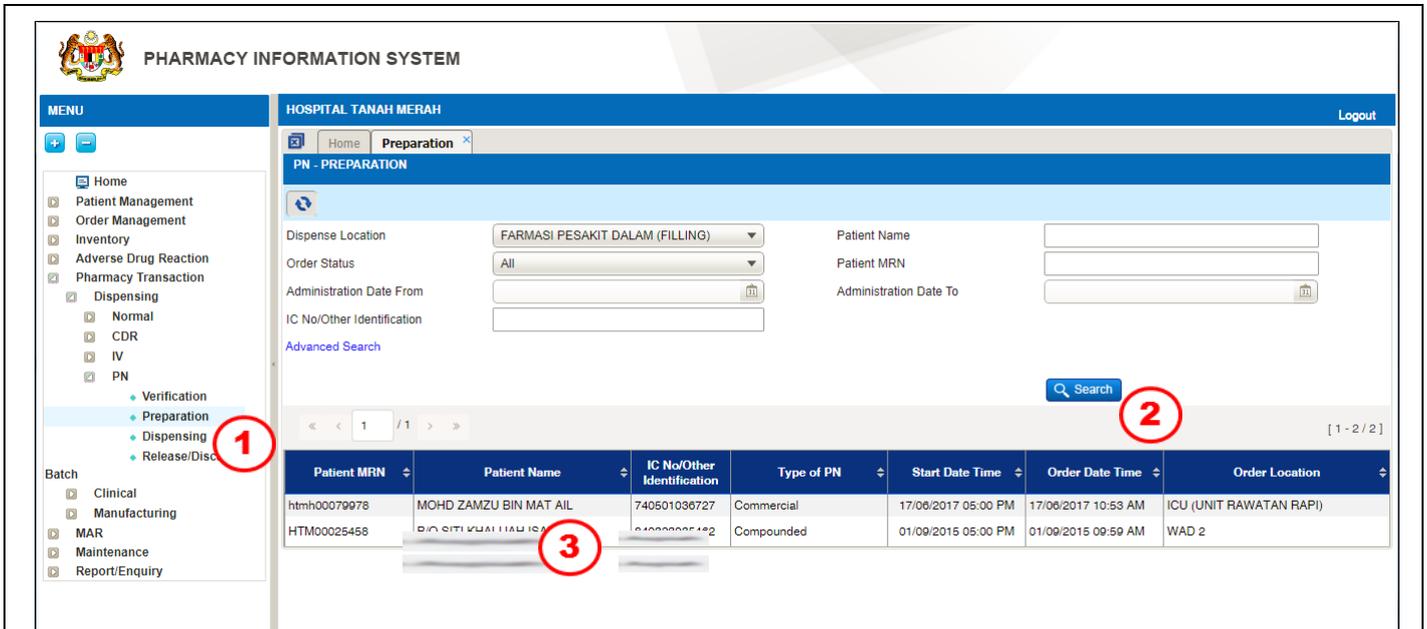


Figure 3.5-1 PN Preparation Listing Page

#### STEP 1

Click on '**Pharmacy Transaction**' menu follow by '**Dispensing**', '**PN**' and click on '**Dispensing**' sub-menu

#### Note

- Various search criteria is provided as below:
  - Dispense Location
  - Patient Name
  - Order Status
  - Patient MRN
  - Administration Date From
  - Administration Date To
  - IC No/Other Identification
- Click on the [Advanced Search](#) hyperlink for advance search.

#### STEP 2

Click on the  button and system will display related order

#### STEP 3

Double click on the selected patient record and system will display PN Dispensing screen as per Figure 3.5-2



**PN PREPARATION**

Prescription X

Mykac, Age 32 Years 10 Months, Gender Female, MRN HKLM00066875

Address, Phone And Email, Diagnosis, No known Allergies

Height 150 cm, Weight 50 kg, BMI/BSA 22.2 / 1.44 m<sup>2</sup>, Update (Last Updated : 06/04/2018), Nationality : Warganegara

Lab Parameter | Counselling History | Demographic | Pharmacist Notes | Medication Profile | Other Appointment

Encounter No: 0001 Visit Date: 06/04/2018 Visit Location: Klinik Pakar 3 (Medical & Dermatology & Paediatric) Room No/Bed No: Rx No: KP30000371615 Order By: System Administrator Transcribed B G

Original Prescription Serial No: 13132

**PHARMACY ORDER**

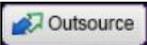
Prepared Date/Time: 06/04/2018 03:46 PM

**PRESCRIPTION** PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Adult	2500 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	OUTSOURCED

Figure 3.5-2 PN Preparation

**STEP 4**

Click on the  button to prepare outsource product

**OUTSOURCE DETAILS**

Age 39 Years 08 Months 15 Days, Gender Female, MRN HPSF00051007

Address, Phone And Email, Diagnosis, Nationality : Warganegara, Known Allergies [ 2 ], Vital Sign

Height cm, Weight 50 kg, BMI/BSA 0/0 m<sup>2</sup>, Update (Last Updated : ), Nationality : Warganegara

**PHARMACY ORDER**

Outsource No	Sending Status
Referred From: Hosp. Pakar Sultanah Fatimah	Referred To: Hospital Alor Gajah
Contact Person / Office: Invalid account	Contact Person / Office: test
Contact no / Ext No: 1324566	Contact no / Ext No: 0123456789
Request Date/Time: 04/01/2023 1:48 PM	Tentative Receipt Date
Remarks	

Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks
WRD8710002731098	30/03/2022 03:57:29 PM	PN Compounded Adult	Details	1	Remarks

Figure3.5-3 Outsource Details

**STEP 5**

Enter **Contact Person/office, Contact No/Ext/No., Request Date/Time** and **Remarks**

**STEP 6**

Enter **Referred To** by click on the search button

**Note**

Enter **Contact Person/office, Contact No/Ext/No.** and **Tentative Receipt Date.**

**OUTSOURCE DETAILS**

Send Out **7** est. X

	Address	Phone And Email	Age 39 Years 08 Months 15 Days	Gender Female	MRN HPSF00051007
Upload Photo	Height <input type="text"/> cm	Weight <input type="text"/> 50 kg	BMI/BSA 0/0 m <sup>2</sup>	Update (Last Updated : )	Nationality <input type="text"/> Warganegara
			Diagnosis	Known Allergies[ 2 ]	Vital Sign

**PHARMACY ORDER**

Outsource No	<input type="text"/>	Sending Status	<input type="text"/>
Referred From	Hosp. Pakar Sultanah Fatimah	Referred To	Hospital Alor Gajah *
Contact Person / Office	Invalid account *	Contact Person / Office	test *
Contact no / Ext No	1324566 *	Contact no / Ext No	0123456789 *
Request Date/Time	04/01/2023 1:48 PM	Tentative Receipt Date	<input type="text"/>
Remarks			

Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks
WRD8710002731098	30/03/2022 03:57:29 PM	PN Compounded Adult	<a href="#">Details</a>	1	<a href="#">Remarks</a>

Figure 3.5-4 Outsource Details

**STEP 7**

Click on the  button to send outsource request

**CONFIRMATION**

CONF0110: Are you sure you want to send Outsource Request?

8

Figure 3.5-5 Send Request Alert Message

**STEP 8**

Click on the  button to send outsource request

**OUTSOURCE DETAILS**

Send Out **9** est. X

	Address	Phone And Email	Age 39 Years 08 Months 15 Days	Gender Female	MRN HPSF00051007
Upload Photo	Height <input type="text"/> cm	Weight <input type="text"/> 50 kg	BMI/BSA 0/0 m <sup>2</sup>	Update (Last Updated : )	Nationality <input type="text"/> Warganegara
			Diagnosis	Known Allergies[ 2 ]	Vital Sign

**PHARMACY ORDER**

Outsource No	PN-11-01060015170414-017	Sending Status	<input type="text"/>
Referred From	Hosp. Pakar Sultanah Fatimah	Referred To	KK Greentown *
Contact Person / Office	<input type="text"/> *	Contact Person / Office	<input type="text"/> *
Contact no / Ext No	<input type="text"/> *	Contact no / Ext No	<input type="text"/> *
Request Date/Time	04/01/2023 1:48 PM	Tentative Receipt Date	<input type="text"/>
Remarks			

Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks
WRD8710002731098	30/03/2022 03:57:29 PM	PN Compounded Adult	<a href="#">Details</a>	1	<a href="#">Remarks</a>

Figure 3.5-6 Outsource Details

**STEP 9**

Click on the  button to close outsource screen as per Figure 3.5-6



## 4.0 Acronyms

Abbreviation	Definition
MOH	Ministry Of Health
PhIS	Pharmacy Information System
CPS	Clinical Pharmacy System
MRN	Medical Record Number
IV	Intravenous
HQ	Headquarters
INJ	Injection
QTY	Quantity
LAB	Laboratory

## 5.0 Links to Clinical Modules

No	Module	PDF Links	No	Module	PDF Links
1	<i>Inpatient</i>	<a href="#">Click Here</a>	12	<i>CDR Dispensing</i>	<a href="#">Click Here</a>
2	<i>CDR Order</i>	<a href="#">Click Here</a>	13	<i>Methadone Dispensing</i>	<a href="#">Click Here</a>
3	<i>TDM Order</i>	<a href="#">Click Here</a>	14	<i>PN Dispensing</i>	<a href="#">Click Here</a>
4	<i>PN Order</i>	<a href="#">Click Here</a>	15	<i>Order Management</i>	<a href="#">Click Here</a>
5	<i>IV Order</i>	<a href="#">Click Here</a>	16	<i>Patient Management</i>	<a href="#">Click Here</a>
6	<i>Prepacking</i>	<a href="#">Click Here</a>	17	<i>Radiopharmaceuticals</i>	<a href="#">Click Here</a>
7	<i>Galenical</i>	<a href="#">Click Here</a>	18	<i>Outpatient</i>	<a href="#">Click Here</a>
8	<i>MTAC</i>	<a href="#">Click Here</a>	19	<i>Special Drug Request</i>	<a href="#">Click Here</a>
9	<i>ADR &amp; DAC</i>	<a href="#">Click Here</a>	20	<i>MAR</i>	<a href="#">Click Here</a>
10	<i>Medication Counselling</i>	<a href="#">Click Here</a>	21	<i>DICE</i>	<a href="#">Click Here</a>
11	<i>Ward Pharmacy</i>	<a href="#">Click Here</a>	22		