



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

User Manual Parenteral Nutrition (PN) Dispensing

Version	: 11th Edition
Document ID	: U. MANUAL_PN_DISPENSING



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Application reference: PhIS & CPS v2.3.1



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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/functionalities. 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

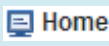
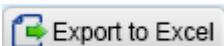
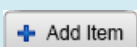
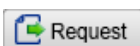
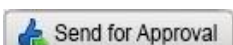
1.3 Organised Sections

These are the sections within this document:

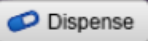
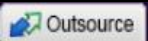
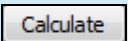
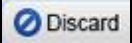
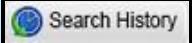
- Section 1 : Introduction
- Section 2 : Application Standard Features
- Section 3 : Parenteral Nutrition Dispensing
- Section 4 : Acronyms
- Section 5 : Links to Clinical Modules

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.



2.2 Latest Enhancement and Updates

Latest Functions	Page
Notes on PN Intervention	17
Screenshot for alternate	27-29

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

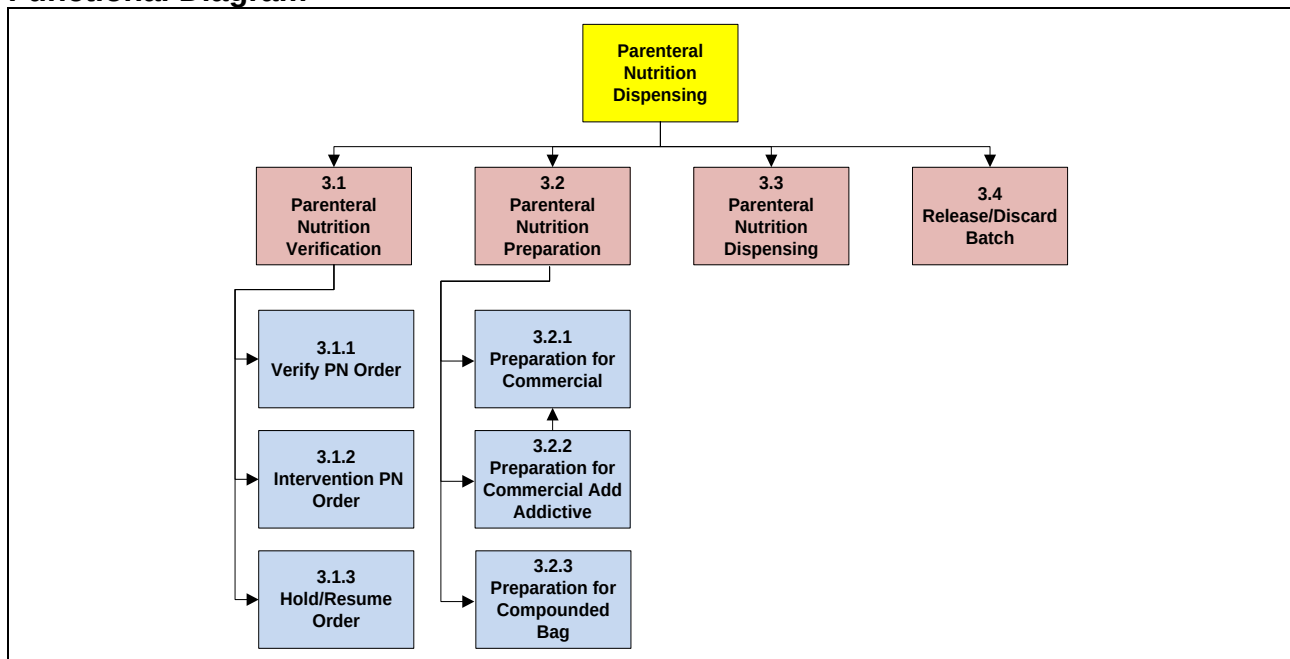


Figure 3.0-1

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

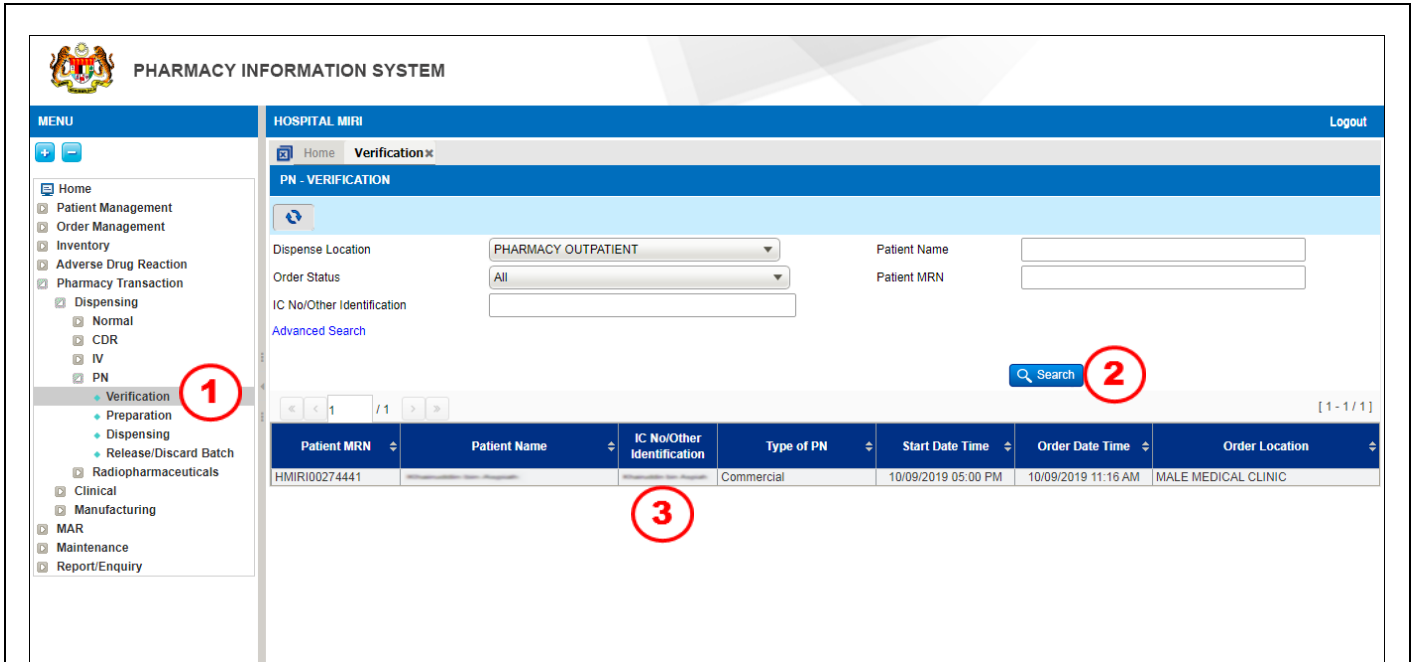


Figure 3.1.1-1 PN Verification Listing Page

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 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>
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 duration of order 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
- Type of PN
- Order Date
- Order Location

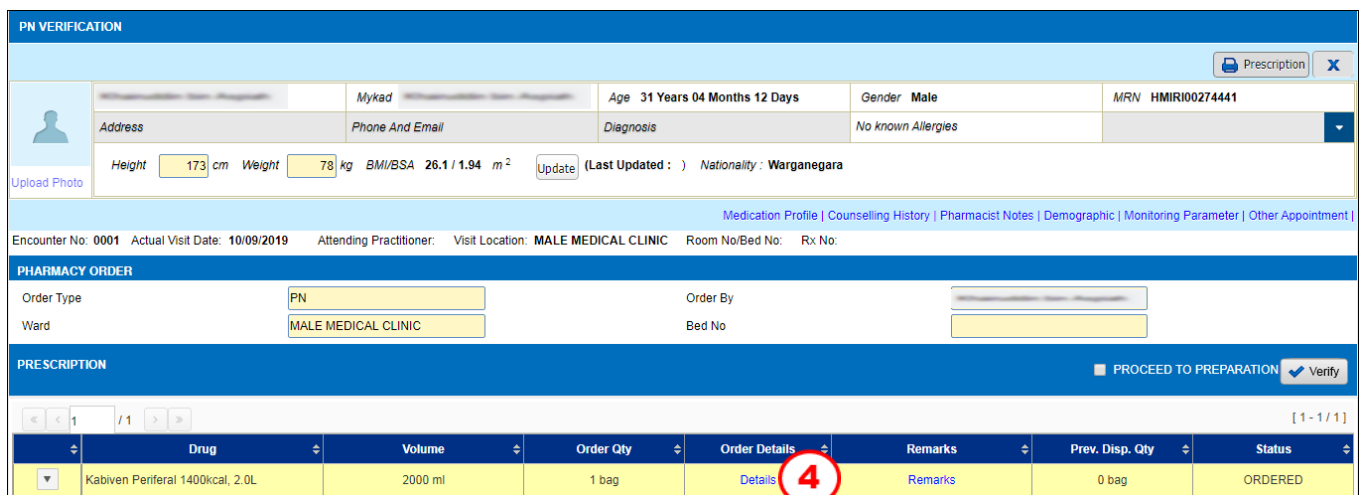
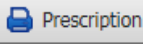


Figure 3.1.1-2 PN Verification

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^2 .

- Click on the  button to view/print PN Prescription.

Note

By  **PROCEED TO PREPARATION** on the radio button at proceed to preparation, system will be open preparation screen directly.

PN VERIFICATION					
 					
	Mykad	Age	31 Years 04 Months 12 Days	Gender	Male
	Address	Phone And Email	Diagnosis	No known Allergies	
	Height	173 cm	Weight	78 kg	BMI/BSA
Upload Photo	Update (Last Updated :) 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.

PHARMACY ORDER			
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									
									
	Mykad	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 ²	(Last Updated :) Nationality : Warganegara		
Upload Photo									
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 INTERVENTION ORDER
2

INTERVENTION REASON

< 1 / 1 >
[1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐	Authenticity		☐	☐
☐	Contraindication		☐	☐
☐	Drug Interaction		☐	☐
☐	Inappropriate Dose		☐	☐
☐	Inappropriate Drug		☐	☐
☐	Inappropriate Duration		☐	☐

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

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

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

NA

Infusion Line

Central

Figure 3.1.2-2 PN Intervention Order

Note

- PN Intervention Order screen include four sections:
 - Intervention Reason
 - Modify Order
 - Administration Information
 - 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

Comercial PN type Intervention

PN INTERVENTION ORDER

History

Confirm

X

INTERVENTION REASON

<<

<

1

/ 1

>

>>

[1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐	Inappropriate Frequency		☐	☐
☐	Incompatibility		☐	☐
☒	Others	Test	☒	☐
☐	Polypharmacy		☐	☐
☐	Suggest to Monitor Vital Signs/Lab Result		☐	☐
☐	Wrong Patient		☐	☐

MODIFY ORDER

Type of PN

Commercial / MOH Pre mix (Std. Soln)

Kabiven Periferal 1400kcal, 2.0L

Compounded

Add Additive

Body weight type:

Actual

Ideal

Adjusted

Body weight:

78 kg

ADMINISTRATION INFO

Volume

2000 ml

Indication for PN

Major trauma and burns

Frequency

OD (once daily)

Infusion Line

Central

Infusion Over

24 hours

Order Quantity

1 bag

Start Date/Time

10/09/2019 05:00 PM

Duration

1 Days

End Date/Time

11/09/2019 05:00 PM

Dispense Location

PHARMACY OUTPATIENT

Remarks

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 3.1.2-3 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

INTERVENTION REASON

1 / 1

[1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐	Authenticity		☐	☐
☐	Contraindication		☐	☐
☐	Drug Interaction		☐	☐
☐	Inappropriate Dose		☐	☐
☐	Inappropriate Drug		☐	☐
☐	Inappropriate Duration		☐	☐
☐	Inappropriate Frequency		☐	☐
☐	Incompatibility		☐	☐
☒	Others	Wrong order	☒	☐
☐	Polypharmacy		☐	☐
☐	Suggest to Monitor Vital Signs/Lab Result		☐	☐
☐	Wrong Patient		☐	☐

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

Comercial with additive PN type Intervention

PN INTERVENTION ORDER

History

Confirm

X

INTERVENTION REASON

<

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1

/ 1

>

[1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐	Authenticity		☐	☐
☐	Contraindication		☐	☐
☐	Drug Interaction		☐	☐
☐	Inappropriate Dose		☐	☐
☐	Inappropriate Drug		☐	☐
☐	Inappropriate Duration		☐	☐

MODIFY ORDER

Type of PN

Commercial / MOH Pre mix(Std. Soln)

Smof Kabiven Peripheral 1000kcal, 1.5L

Compounded

Add Additive

Body weight type:

Actual

Ideal

Adjusted

Body weight:

60 kg

ADMINISTRATION INFO

Ordered Volume

1448 ml

Frequency

OD (once daily)

Infusion Over

24 hours

Start Date/Time

14/10/2019 05:00 PM

End Date/Time

15/10/2019 05:00 PM

Indication for PN

Enterocutaneous fistulae

Infusion Line

Central

Order Quantity

1 bag

Dispense Location

Satellite Pharmacy

Remarks

PN COMPONENT

Electrolytes	Initial Content	Additional Requirement	Total Per Day
Sodium(Natrium),Na+	36 mmol	14 mmol	50 mmol
Potassium(Kalium),K+	28 mmol	12 mmol	40 mmol
Calcium,Ca2+	2.3 mmol	0 mmol	2.3 mmol
Magnesium,Mg+	4.6 mmol	0 mmol	4.6 mmol
Phosphate,(PO4)2-	11.9 mmol	2 mmol	13.9 mmol
Acetate(CH3COO)	96 mmol	2 mmol	98 mmol
Trace elements	0 ml	0 ml	0 ml
L-Glutamin	0 ml	0 ml	0 ml
Vitamin			
☐ Single Vitamin ☒ Combine Vitamin			
Water and Fat Soluble	0 ml	2 ml	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 / 1 >
[1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐	Authenticity		☐	☐
☐	Contraindication		☐	☐
☐	Drug Interaction		☐	☐
☐	Inappropriate Dose		☐	☐
☐	Inappropriate Drug		☐	☐
☐	Inappropriate Duration		☐	☐
☐	Inappropriate Frequency		☐	☐
☐	Incompatibility		☐	☐
☒	Others	Wrong order	☒	☒
☐	Polypharmacy		☐	☐
☐	Suggest to Monitor Vital Signs/Lab Result		☐	☐
☐	Wrong Patient		☐	☐

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

PN INTERVENTION ORDER

History

Confirm

X

INTERVENTION REASON

<<

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1

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[1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐	Authenticity		☐	☐
☐	Contraindication		☐	☐
☐	Drug Interaction		☐	☐
☐	Inappropriate Dose		☐	☐
☐	Inappropriate Drug		☐	☐
☐	Inappropriate Duration		☐	☐

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: 65 kg

PN COMPONENT

Use Fluid Calculator

By weight

Per day

Total volume required

43.08 ml/kg

2800 ml

Total oral feeding

0 ml/kg

ml

TPN Volume

43.08 ml/kg

2800 ml

Energy required

kcal/kg

kcal

Macronutrient

Carbohydrate

3 g/kg

Recommended range(per kg)

3.00 - 5.00 g/kg

195 g

780 kcal

Lipid

1 g/kg

0.50 - 2.00 g/kg

65 g

585 kcal

Protein

1 g/kg

0.50 - 2.00 g/kg

65 g

260 kcal

L-Glutamin

1.54 ml/kg

1.50 - 2.50 ml/kg

100 ml

80 kcal

Carbohydrate:Lipid(kcal)

57 : 43

Nitrogen Content

11 g

NPC:NRatio

131 : 1

Total

1705 kcal

Electrolytes

Sodium(Natrium),Na+

1 mmol/kg

1.00 - 2.00 mmol/kg

65 mmol

Potassium(Kalium),K+

1 mmol/kg

0.70 - 1.50 mmol/kg

65 mmol

Calcium,Ca2+

0.1 mmol/kg

0.10 - 0.15 mmol/kg

6.5 mmol

Magnesium,Mg+

0.1 mmol/kg

0.05 - 0.15 mmol/kg

6.5 mmol

Phosphate,(PO4)2-

0.6 mmol/kg

0.50 - 0.70 mmol/kg

39 mmol

Chloride,Cl+

1 mmol/kg

1.30 - 2.00 mmol/kg

65 mmol

Acetate(CH3COO)

0 mmol/kg

0.00 - 0.00 mmol/kg

0 mmol

Trace elements

0.08 ml/kg

0.00 - 10.00 ml

5 ml

Vitamin

Single Vitamin

Combine Vitamin

ADMINISTRATION INFO

Volume

2800 ml

Indication for PN

Gastrointestinal fistula

Frequency

OD

Infusion Line

Central

Infusion Over

24 hours

Order Quantity

1 BAG

Start Date/Time

14/10/2019 05:00 PM

Dispense Location

Satellite Pharmacy

End Date/Time

15/10/2019 05:00 PM

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)	0.6 (39)	1 (65)	0.1 (6.5)	0.1 (6.5)	NA	0.08 (5)	NA	NA
Protein g per kg (g)	1 (65)	3 (195)	NA	1 (65)	1.54 (100)	NA	Central	

Figure 3.1.2-7 PN Intervention Order

U. MANUAL_PN_DISPENSING-11th E

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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 [Refresh] X

INTERVENTION REASON

< 1 / 1 >

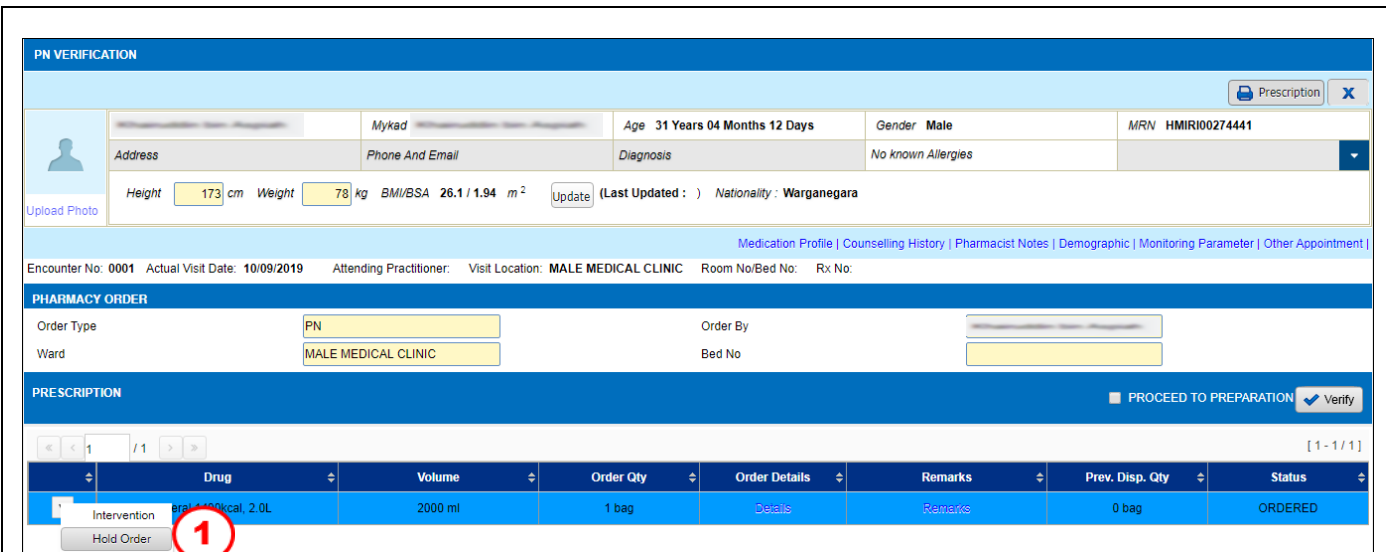
[1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
☐	Authenticity		☐	☐
☐	Contraindication		☐	☐
☐	Drug Interaction		☐	☐
☐	Inappropriate Dose		☐	☐
☐	Inappropriate Drug		☐	☐
☐	Inappropriate Duration		☐	☐
☐	Inappropriate Frequency		☐	☐
☐	Incompatibility		☐	☐
☒	Others	Wrong order	☒	☐
☐	Polypharmacy		☐	☐
☐	Suggest to Monitor Vital Signs/Lab Result		☐	☐
☐	Wrong Patient		☐	☐

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



The screenshot shows the 'PN VERIFICATION' screen. At the top, there's a 'Prescription' button. Below it, patient information is displayed: Mykad, 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 m²), and Nationality (Warganegara). There are links for 'Medication Profile', 'Counselling History', 'Pharmacist Notes', 'Demographic', 'Monitoring Parameter', and 'Other Appointment'. Below this, encounter details are shown: Encounter No: 0001, Actual Visit Date: 10/09/2019, Attending Practitioner, Visit Location: MALE MEDICAL CLINIC, Room No/Bed No, and Rx No. The 'PHARMACY ORDER' section shows Order Type (PN), Ward (MALE MEDICAL CLINIC), Order By, and Bed No. The 'PRESCRIPTION' section has a 'PROCEED TO PREPARATION' button and a 'Verify' checkbox. A table lists the prescription details:

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Intervention Hold Order	2000 ml	1 bag	Details	Remarks	0 bag	ORDERED

Figure 3.1.3-1 PN Verification Screen

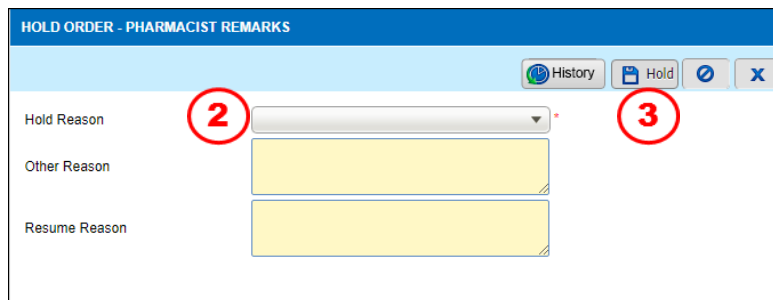
Note

To proceed with Hold/Resume PN Order, repeat **Step 1 to 4** 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



The screenshot shows the 'HOLD ORDER - PHARMACIST REMARKS' screen. It has buttons for 'History', 'Hold', and 'X'. There are three input fields: 'Hold Reason' (with a dropdown arrow), 'Other Reason', and 'Resume Reason'. The 'Hold Reason' field is circled with a red '2', and the 'Hold' button is circled with a red '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 activate 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

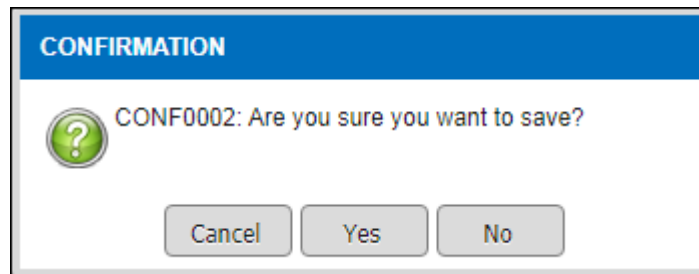
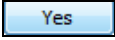


Figure 3.1.3-3 Confirmation Alert Message

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 m² 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 >

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Kabiven Periferal 1400kcal, 2.0L	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 ▾ button and select **Resume Order** function and screen will be displayed as Figure 3.1.3-5

HOLD ORDER - PHARMACIST REMARKS

History Resume X

Hold Reason: Inappropriate Duration

Other Reason: [Redacted]

Resume Reason: Done (5)

(6) (7)

Figure 3.1.3-5 Hold Order – Pharmacist Remarks

Note

To proceed with Resume PN Order, repeat **Step 2 to 3** from section **3.1.3 Hold/Resume PN Order**.

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

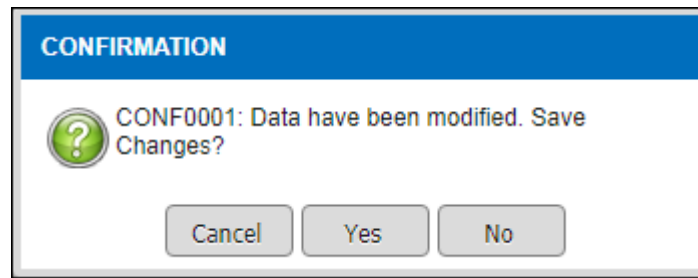


Figure 3.1.3-6 Confirmation Alert Message

Note

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

History

Note

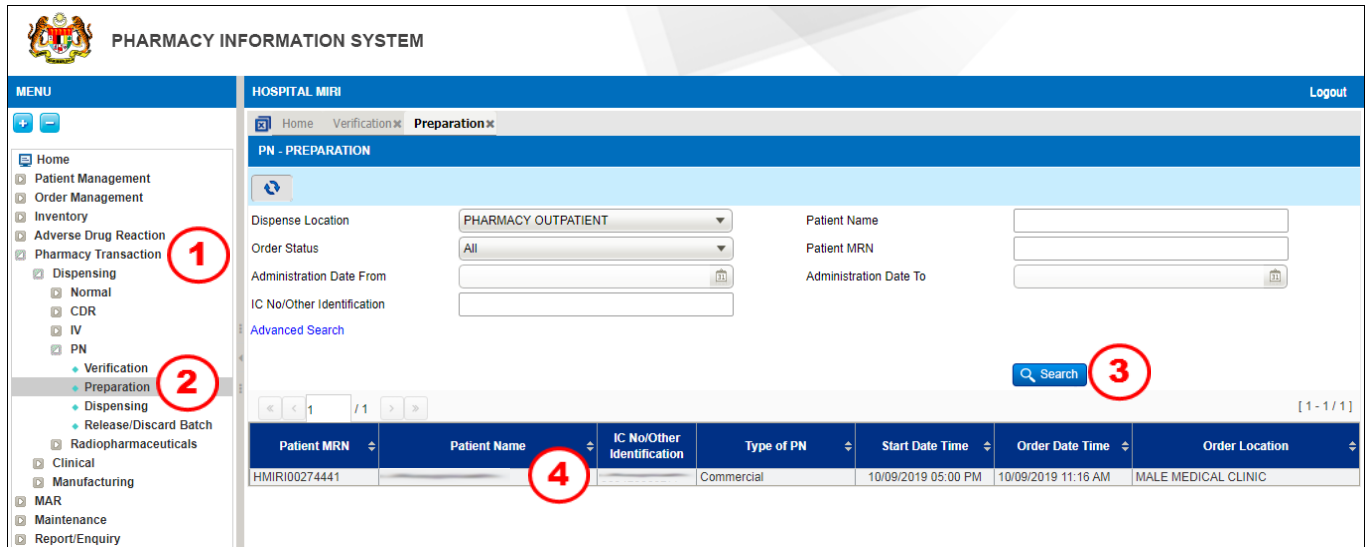
- Click on the  button to view history of hold order reason history listing as per Figure 3.1.3-7.
- Click on the  button to close Hold Order Reason History listing screen.

HOLD ORDER REASON HISTORY LISTING					
					
<< < 1 / 1 > >> [1 - 1 / 1]					
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

HOSPITAL MIRI Logout

Home Verification Preparation

PN - PREPARATION

Dispense Location: PHARMACY OUTPATIENT Patient Name:

Order Status: All Patient MRN:

Administration Date From: Administration Date To:

IC No/Other Identification:

Advanced Search

[1 - 1 / 1]

Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location
HMIRI00274441			Commercial	10/09/2019 05:00 PM	10/09/2019 11:16 AM	MALE MEDICAL CLINIC

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 duration of verification order
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 duration 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
- Type of PN
- Order Date
- Order Location

STEP 4

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

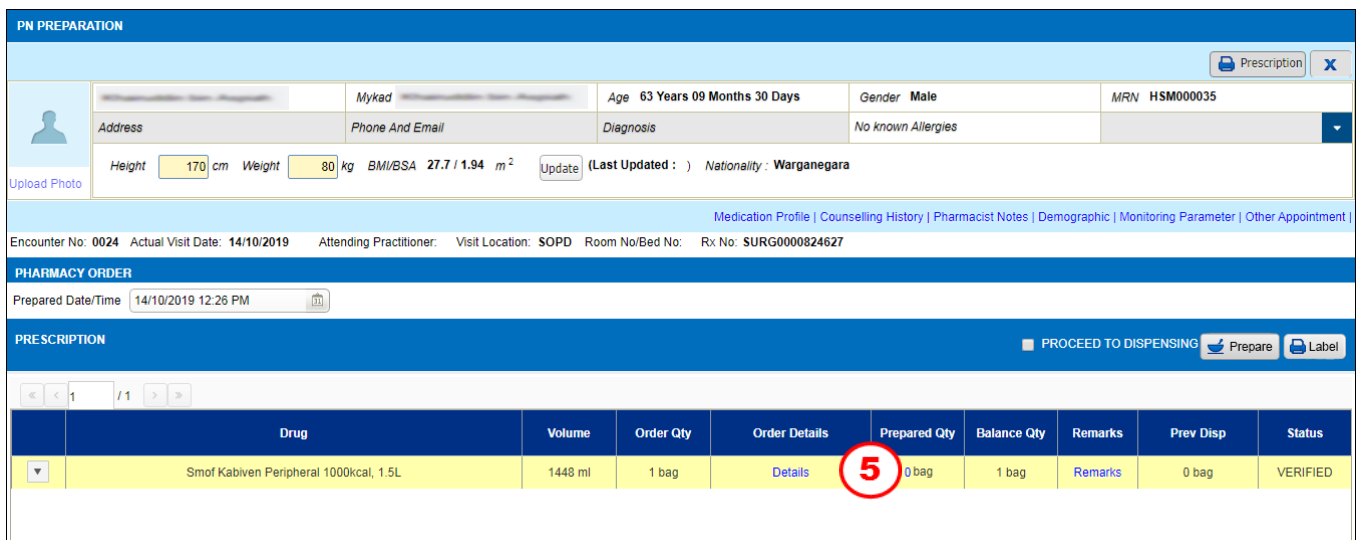


Figure 3.2.1-2 PN Preparation

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

7

Drug Code

PNA00020

Default SKU

bag

Drug Name

Smof Kabiven Peripheral 1000kcal, 1.5L

BATCH DETAIL

<<

<

1

>

>>

[1 - 1 / 1]

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

6

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?

8

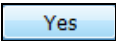
Cancel

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									
	Mykad		Age 63 Years 09 Months 30 Days		Gender Male		MRN HSM000035		
	Address		Phone And Email		Diagnosis		No known Allergies		
Upload Photo	Height 170 cm	Weight 80 kg	BMI/BSA 27.7 / 1.94 m ²		(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 retrived 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

Prescription 

Mykad  Age 63 Years 09 Months 30 Days Gender Male MRN HSM000035

Address Phone And Email Diagnosis No known Allergies

Height 170 cm Weight 80 kg BMI/BSA 27.7 / 1.94 m²  (Last Updated :) Nationality : Warganegara

Upload Photo

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

Encounter No: 0024 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: SOPD Room No/Bed No: Rx No: SURG0000824627

PHARMACY ORDER

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

PRESCRIPTION ☐ PROCEED TO DISPENSING  

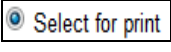
<< 1 / 1 >>

	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
	Smof Kabiven Peripheral 1000kcal, 1.5L	1448 ml	1 bag	Details	1 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**, **Date Prepared** 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.
- The  button to cancel print label.

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 : [REDACTED]		
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

Prescription X

Mykad Age 63 Years 09 Months 30 Days Gender Male MRN HSM000035

Address Phone And Email Diagnosis No known Allergies

Height 170 cm Weight 80 kg BMI/BSA 27.7 / 1.94 m² Update (Last Updated :) Nationality : Warganegara

Upload Photo

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

Encounter No: 0024 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: SOPD Room No/Bed No: Rx No: SURG0000824627

PHARMACY ORDER

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

PRESCRIPTION

PROCEED TO DISPENSING Prepare Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Smof Kabiven Peripheral 1000kcal, 1.5L	1448 ml	1 bag	Details	1 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 3.2.1-9

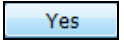
CONFIRMATION

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 3.2.1-9 Prepare Order Alert Message

STEP 10

Click on the  button to confirm prepare order

Note

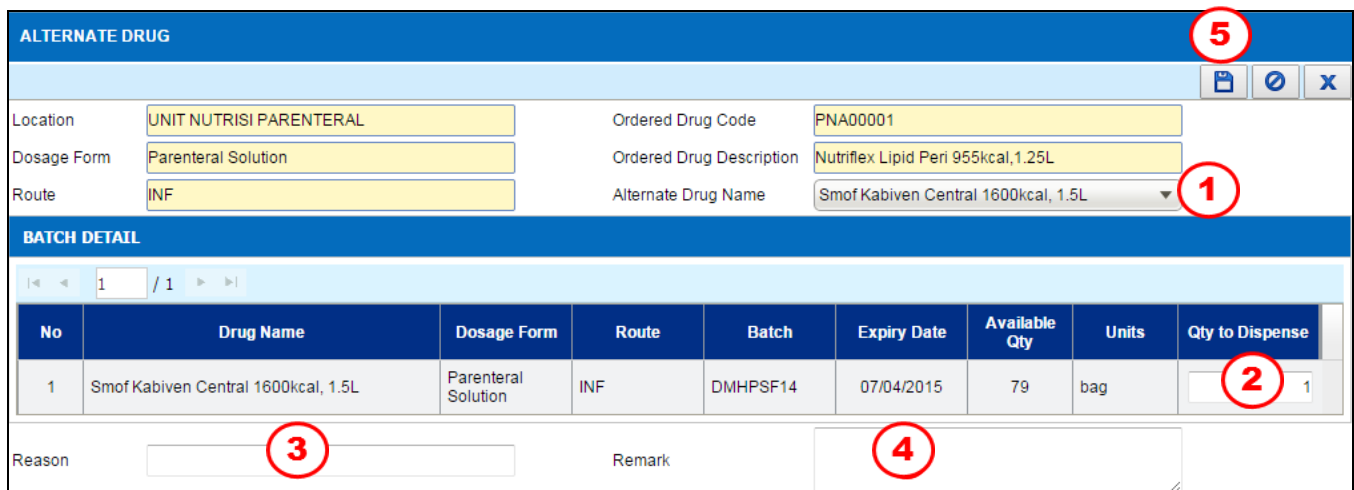
Proceed to Next Stage function will allow user advance to the next screen for each patient record.

3.2.1.1 Alternate Drug

Note

- Preparation for Commercial screen allows user to dispense different drug from existing ordered drug with conditionation, alternate drug should contains same active ingredient and same administration route.
- 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



The screenshot shows the 'ALTERNATE DRUG' form. It has a blue header bar with the title 'ALTERNATE DRUG' and a red circle with the number '5' next to it. Below the header, there are four input fields: 'Location' (UNIT NUTRISI PARENTERAL), 'Ordered Drug Code' (PNA00001), 'Dosage Form' (Parenteral Solution), and 'Ordered Drug Description' (Nutriflex Lipid Peri 955kcal, 1.25L). Below these fields, there is a 'Route' dropdown menu (INF) and an 'Alternate Drug Name' dropdown menu (Smof Kabiven Central 1600kcal, 1.5L) with a red circle and the number '1' next to it. Below the dropdowns, there is a 'BATCH DETAIL' section with a table. The table has columns: No, Drug Name, Dosage Form, Route, Batch, Expiry Date, Available Qty, Units, and Qty to Dispense. The first row of the table has the following values: 1, Smof Kabiven Central 1600kcal, 1.5L, Parenteral Solution, INF, DMHPSF14, 07/04/2015, 79, bag, and 1. A red circle with the number '2' is next to the 'Qty to Dispense' column. Below the table, there are two input fields: 'Reason' (with a red circle and the number '3' next to it) and 'Remark' (with a red circle and the number '4' next to it).

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 **Allocate Qty** 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

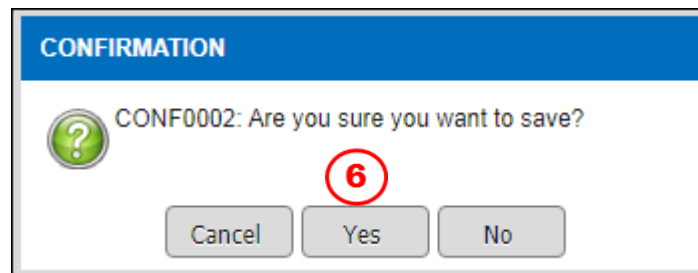


Figure 3.2.1.1-2 Confirmation Alert Message

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

Mykad: [Redacted] Age: 74 Years 07 Months 06 Days Gender: Female MRN: HSM000012

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

Height: 155 cm Weight: 60 kg BMI/BSA: 25 / 1.61 m² G6PD: Update (Last Updated:) Nationality: Warganegara

Upload Photo

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: [Redacted] Transcribed By: [Redacted]

Original Prescription Serial No:

PHARMACY ORDER

Prepared Date/Time: 14/10/2019 10:58 AM

PRESCRIPTION

PROCEED TO DISPENSING Prepare Label

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	
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml)	1448 ml	1 bag	Details	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

Prescription X

Mykad: [Redacted] Age: 35 Years 02 Months 16 Days Gender: Female MRN: HSM000017

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

Height: 156 cm Weight: 60 kg BMI/BSA: 24.7 / 1.61 m² (Last Updated:) Nationality: Warganegara

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

Encounter No: 0020 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: Orthopedic Clinic Room No/Bed No: Rx No: ORTHO0000824615

PHARMACY ORDER

Prepared Date/Time: 14/10/2019 12:55 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Smof Kabiven Peripheral 1000kcal, 1.5L with Additive	1448 ml	1 bag	Details	0 bag	1 bag	Details	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

X

Mykad: [Redacted] Age: 35 Years 02 Months 16 Days Gender: Female MRN: HSM000017

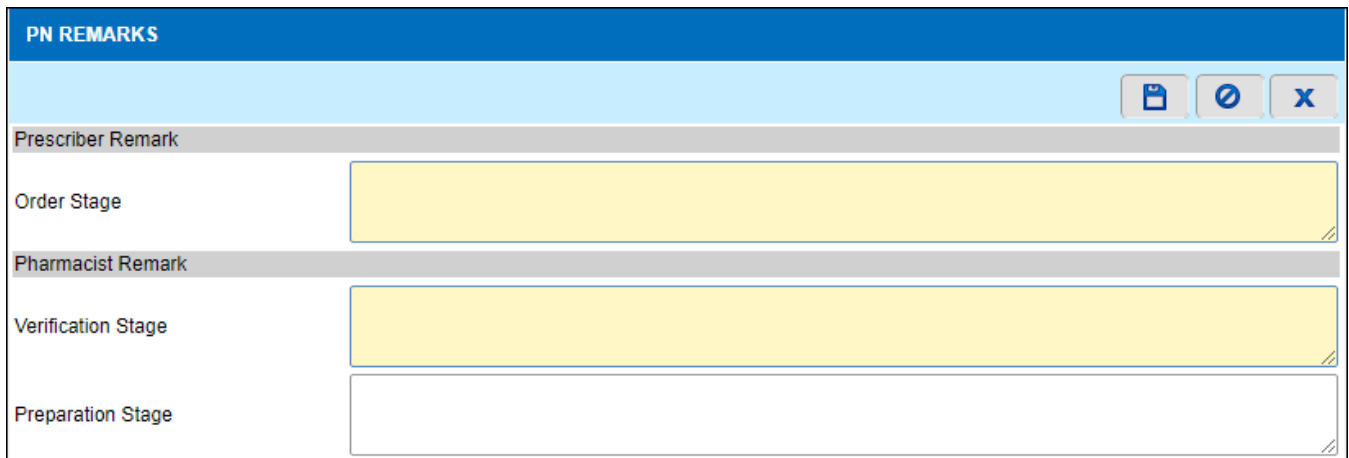
Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] No known Allergies

Height: 156 cm Weight: 60 kg BMI/BSA: 24.7 / 1.61 m² (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

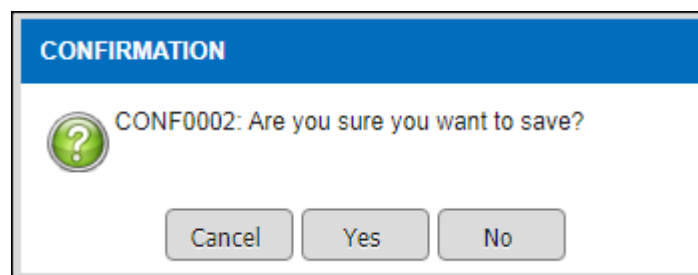
Remarks



The screenshot shows a window titled "PN REMARKS". It has a light blue header bar. Below the header, there are three buttons: a save icon (floppy disk), a cancel icon (circle with a slash), and a close icon (X). The main area is divided into two sections: "Prescriber Remark" and "Pharmacist Remark". Under "Prescriber Remark", there is a label "Order Stage" followed by a large yellow input field. Under "Pharmacist Remark", there is a label "Verification Stage" followed by a large yellow input field, and a label "Preparation Stage" followed by a white input field.

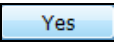
Figure 3.2.2-3 PN Order Details

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



The screenshot shows a "CONFIRMATION" dialog box. It has a blue header bar with the word "CONFIRMATION". Below the header, there is a green question mark icon followed by the text "CONF0002: Are you sure you want to save?". At the bottom, there are three buttons: "Cancel", "Yes", and "No".

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

Prescription X


 MXXXXXXXX X/X XXXXXXXX Mykad: 840729145506 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 m² Update (Last Updated:) Nationality: Warganegara
 Upload Photo Nationality: Warganegara
 Medication Profile | Counselling History | Pharmacist Notes | Demographic | Monitoring Parameter | Other Appointment |

Encounter No: 0020 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: Orthopedic Clinic Room No/Bed No: Rx No: ORTHO0000824615

PHARMACY ORDER

Prepared Date/Time: 14/10/2019 12:55 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Smof Kabiven Peripheral 1000kcal, 1.5L with Additive	1448 ml	1 bag	Details 1	0 bag	1 bag	Details	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 **3**

Drug Code: PNA00020 Default SKU: bag

Drug Name: Smof Kabiven Peripheral 1000kcal, 1.5L

BATCH DETAIL

[1 - 1 / 1]

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
2323	02/01/2021	2221	1	1 2

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  button to save record

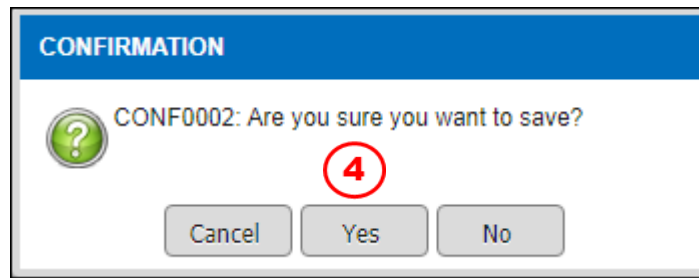
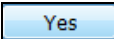
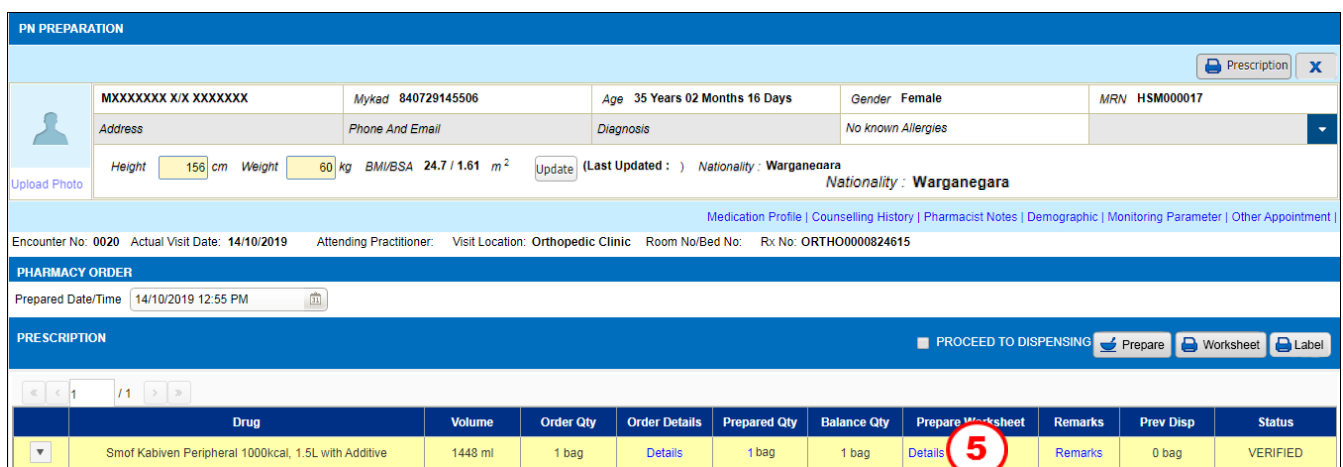


Figure 3.2.2-7 Confirmation Alert Message

STEP 4

Click on the  button to confirm save



PN PREPARATION

Prescription X

Mykad: 840729145506 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 m² Update (Last Updated:) Nationality: Warganegara

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

Encounter No: 0020 Actual Visit Date: 14/10/2019 Attending Practitioner: Visit Location: Orthopedic Clinic Room No/Bed No: Rx No: ORTHO0000824615

PHARMACY ORDER

Prepared Date/Time: 14/10/2019 12:55 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Smof Kabiven Peripheral 1000kcal, 1.5L with Additive	1448 ml	1 bag	Details	1 bag	1 bag	Details	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  

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)
▼	0		0	0	0	0	0	0	0	0	0	0
▼	0		0	0	0	0	0.1	0	0	0	0	0
Sodium Chloride 3% 500mL IV soln	0		0	0	0	0	0	1	0	0	0	0
Potassium Chloride 1g/10ml Injection	0		0	0	0	0	0	0	0	0	0	0
▼	0		0	0	0	0	0	0	0	1	0	0
▼	0		0	0	0	0	0	0	0	0.25	0	0
Trace Element - Paediatric (Peditrace) 10mL Inj	0		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						
▼	0		0	0	0	L-Glutamin						
Total Preparation	0			0	0 mOsmol/L	0	0	0	0	0	0	0
					Content/L	0	0	0	0	0	0	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  Calculate button to calculate the item volume and order quantity as per Figure 3.2.2-10

8

PREPARE WORKSHEET

Intervention Auto Allocation Save Close

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)	
▼	0			0	0	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	0.1	1 amp	0	0	0.2	0	0.1	0	0.1	0	0	0	0
Sodium Chloride 3% 500mL IV soln	1.96	1 bott	0	0	2.02	0	0	1	0	0	0	0	1
▼	0			0	0	0	0	0	0	0	0	0	0
Calcium Gluconate 10% Injection	4.42	1 amp	0	0	2.92	0	0	0	0	1	0	0	0
Magnesium Sulphate 50% Injection (49.3%/5mL)	0.13	1 amp	0	0	0.6	0	0	0	0	0	0.25	0	0
▼	0			0	0	Trace Elements							
▼	0			0	0	Combine Vitamin (Water & Fat Soluble)							
▼	0			0	0	Water Soluble Vitamins							
▼	0			0	0	Fat Soluble Vitamins							
▼	0			0	0	L-Glutamin							
Total Preparation	6.61			0	868.38 mOsmol/L	0	0.1	1	0.1	1	0.25	1	
					Content/L	0	15.13	151.29	15.13	151.29	37.82	151.29	

Calculate

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

CONFIRMATION



CONF5006: Are you sure to do manual allocation ?
Please save calculator before proceed with manual allocation

Yes
No

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

A12AA03000P3001XX

Default SKU

amp

Drug Name

Calcium Gluconate 10% Injection

BATCH DETAIL

< 1 / 1 >

[1 - 1 / 1]

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

Total Location Quantity

10

Total Allocated Quantity

1

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

Vitamin

Vitamin Solution

ml

Trace elements

ml

Lipid

g

Water soluble

ml

Acetate

mmol

Protein

g

Fat soluble

ml

L-Glutamin

ml

Electrolytes

Sodium(Natrium),Na+

mmol

Calcium,Ca2+

mmol

Phosphate,(PO4)2-

mmol

Potassium(Kalium),K+

mmol

Magnesium,Mg+

mmol

Calculate

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 3.2.2-15.

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 :  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

Prescription X

Mykad  Age 58 Years 01 Months 13 Days Gender Male MRN HSM000015
Address Phone And Email Diagnosis No known Allergies

Height 173 cm Weight 80 kg BMI/BSA 26.7 / 1.96 m² Update (Last Updated :) National Nationality : Warganegara

Upload Photo

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

Encounter No: 0005 Actual Admission Date: 30/10/2019 Attending Practitioner: Visit Location: FBW FILLING STATION Room No/Bed No: Rx No: FBW_FILL0000824856

PHARMACY ORDER

Prepared Date/Time 30/10/2019 04:08 PM

PRESCRIPTION

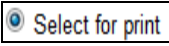
PROCEED TO DISPENSING Prepare Worksheet Label

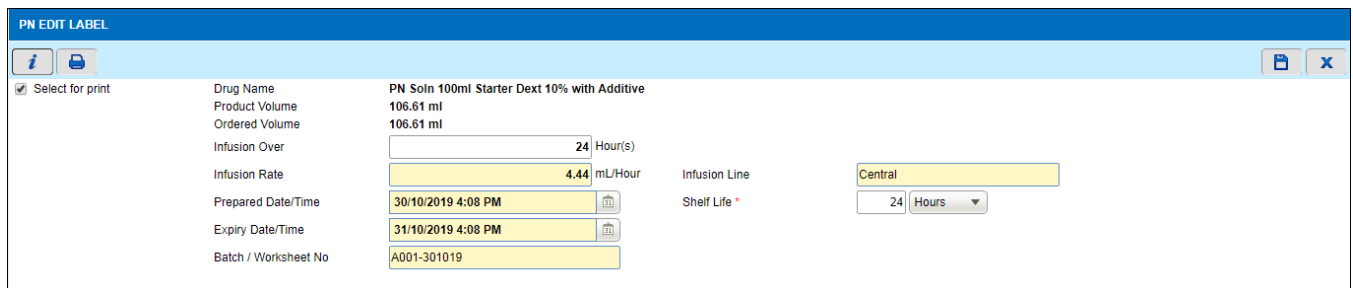
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Soln 100ml Starter Dext 10% with Additive	100 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

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**, **Date Prepared** 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.
- The  button to close PN Edit Label window.



PN EDIT LABEL

☒ 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: 24 Hour(s)

Infusion Rate: 4.44 mL/Hour

Prepared Date/Time: 30/10/2019 4:08 PM

Expiry Date/Time: 31/10/2019 4:08 PM

Batch / Worksheet No: A001-301019

Infusion Line: Central

Shelf Life: 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.

HOSPITAL SERI MANJUNG		
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
Content	/ kg	/ bag
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

Prescription X

Mykad: [Redacted] Age: 58 Years 01 Months 13 Days Gender: Male MRN: HSM000015

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

Height: 173 cm Weight: 80 kg BMI/BSA: 26.7 / 1.96 m² Update (Last Updated:) Nationality: Warganegara

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

Encounter No: 0005 Actual Admission Date: 30/10/2019 Attending Practitioner: Visit Location: FBW FILLING STATION Room No/Bed No: Rx No: FBW_FILL0000824856

PHARMACY ORDER

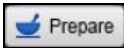
Prepared Date/Time: 30/10/2019 04:08 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Soln 100ml Starter Dext 10% with Additive	100 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	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 3.2.2-18

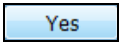
CONFIRMATION

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 Next Stage 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

Order Details

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 m² (Last Updated:) Nationality: Warganegara

Upload Photo

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

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	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 3.2.3.1-1 PN Preparation

PN ORDER DETAILS

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 m² (Last Updated:) Nationality: Warganegara

Upload Photo

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

Prepare Worksheet

Details

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

2800 ml

Energy required

1705 kcal

Product category

☒ 3 in 1
 ☐ 2 in 1

Macronutrient

Glucose

195 g

Lipid

65 g

Protein

65 g

Electrolytes

Sodium(Natrium),Na+

65 mmol

Potassium(Kalium),K+

65 mmol

Vitamin

Vitamin Solution

ml

Water soluble

ml

Fat soluble

ml

Trace elements

5 ml

Acetate

0 mmol

L-Glutamin

100 ml

Calcium,Ca2+

6.5 mmol

Phosphate,(PO4)2-

39 mmol

Magnesium,Mg+

6.5 mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
	0		0	0	0	65	0	0	0	0	0	0	0	0	0
	0		0	0	0	0	195	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasma) 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	39	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
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	6.5	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	6.5	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 mOsmol/l	0	0	0	0	0	0	0	0	0	0
					Content/L	0	0	0	0	0	0	0	0	0	0

Calculate

	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

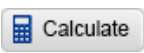
Note

- 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 ☐

DETAIL

TPN volume ml
Macronutrient
Glucose g
Lipid g
Protein g
Electrolytes
Sodium(Natrium),Na+ mmol
Potassium(Kalium),K+ mmol

Energy required kcal
Vitamin
Vitamin Solution ml
Water soluble ml
Fat soluble ml
Calcium, Ca2+ mmol
Magnesium, Mg+ mmol

Product category ☐ 3 in 1 ☐ 2 in 1
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									
						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
Dextrose 50% 10mL Inj	390	39 amp	0	780	1084.2	0	195	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
Potassium Dihydrogen Phosphate Injection	39	4 amp	0	0	78	0	0	0	0	39	0	39	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	65
Potassium Chloride 1g/10ml Injection	19.4	2 amp	0	0	52.44	0	0	0	0	0	0	26	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
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
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									
Total Preparation	2800			1705	759.06 mOsmol/l	65	195	65	0	39	65	65	6.5	6.5	91
					Content/L	23.21	69.64	23.21	0	13.93	23.21	23.21	2.32	2.32	32.5

	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  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

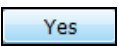
Cancel

Yes

No

Figure 3.2.3.1-5 Confirmation Alert Message

STEP 6

Click on the  button to save record

PN PREPARATION

Prescription

X

Mykad

Age 55 Years 02 Months 14 Days

Gender Female

MRN HSM000031

Address

Phone And Email

Diagnosis

No known Allergies

Height 156 cm Weight 65 kg BMI/BSA 26.7 / 1.68 m²

Update (Last Updated :) Nationality : Warganegara

Upload Photo

[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

PHARMACY ORDER

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

7

PRESCRIPTION

PROCEED TO DISPENSING

Prepare

Worksheet

Label

Outsource

1 / 1

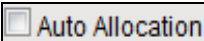
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Adult	2800 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

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 Next Stage function will allow user advance to next stage screen for each patient record.
- Untick on the  checkbox to allocate manually.

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ADULT PARENTERAL NUTRITION WORKSHEET

MINISTRY OF HEALTH

Hospital Full Based

Patient Name : OXXXX XXX XXXXXX
MRN : HPSF00028523
Ward/Bed No : WAD 7 (MED - L)/B19
Age : 58 Years 11 Months 26 Days
Gender : Male
Body Weight : 67 kg

Worksheet : A116-131016
Prepared Date/Time : 13/10/2016 03:11 PM
Prescription # : 70000191335

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: [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 m² Update (Last Updated:) Nationality: Warganegara

Upload Photo

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

PHARMACY ORDER

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

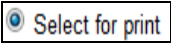
PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Adult	2800 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	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**, **Date Prepared** and **Shelf Life** field.
- Expiry Date** field will automatically display 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

Select for print

Drug Name: Smof Kabiven Peripheral 800kcal, 1.2L

Total Volume: 1200 ml

Infusion Over: 24 Hour(s)

Infusion Rate: 50.25 mL/Hour

Prepared Date/Time: 17/06/2017 12:22 PM

Expiry Date/Time: 18/06/2017 12:22 PM

Batch/Worksheet No: 10KF6782

Infusion Line: Peripheral

Shelf Life: 24 Hours

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 : A002-290519	Expiry Date : 30/05/2019	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 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

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 m² Update (Last Updated:) Nationality: Warganegara

Upload Photo

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

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	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 3.2.3.1-12 Sample of PN Label

STEP 8

Click on the  button to prepare PN order

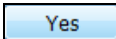
CONFIRMATION

CONF0060: Do you want to proceed with the preparation?

Yes No

Figure 3.2.3.1-13 Preparation Confirmation Alert Message

STEP 9

Click on the  button to confirm prepare order

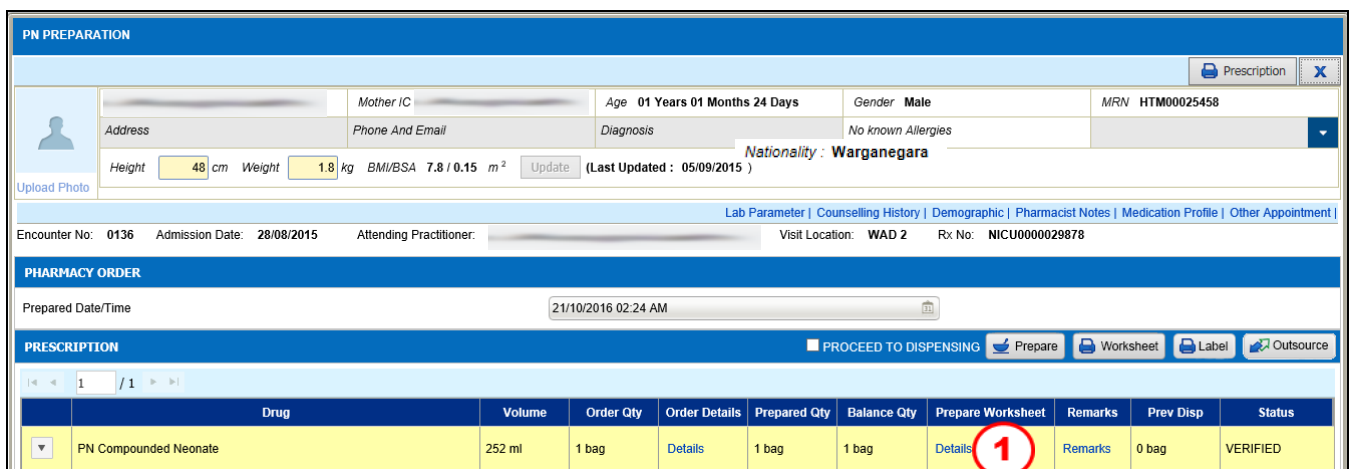
3.2.3.2 Preparation Compounded 2 in 1 Bag

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



PN PREPARATION

Prescription X

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

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

Height: 48 cm Weight: 1.8 kg BMI/BSA: 7.8 / 0.15 m² Update (Last Updated: 05/09/2015) Nationality: Warganegara

Upload Photo

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

Encounter No: 0136 Admission Date: 28/08/2015 Attending Practitioner: [Redacted] Visit Location: WAD 2 Rx No: NICU0000029878

PHARMACY ORDER

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

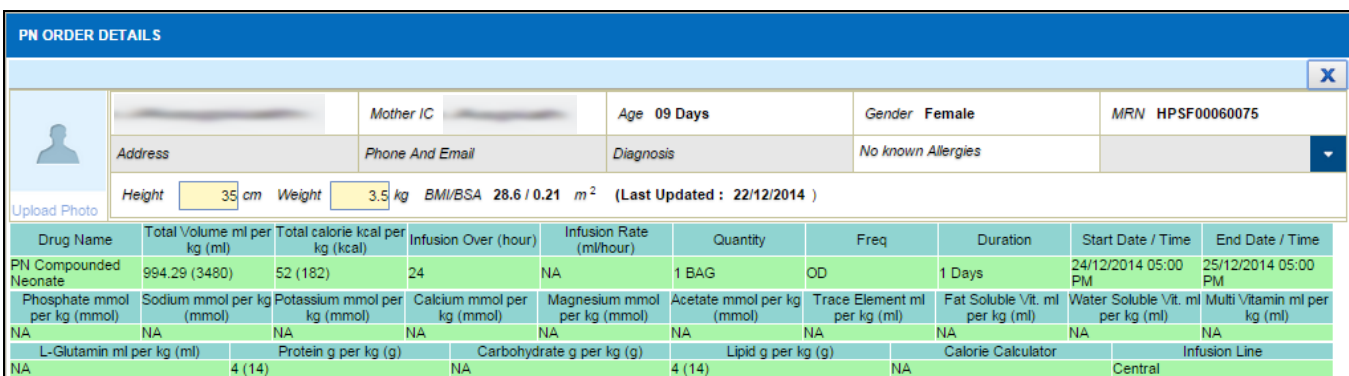
PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Neonate	252 ml	1 bag	Details	1 bag	1 bag	Details 1	Remarks	0 bag	VERIFIED

Figure 3.2.3.2-1 PN Preparation

STEP 1

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



PN ORDER DETAILS

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

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

Height: 35 cm Weight: 3.5 kg BMI/BSA: 28.6 / 0.21 m² (Last Updated: 22/12/2014)

Upload Photo

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

2820 ml

Energy required

0 kcal

Product category

☐ 3 in 1
 ☒ 2 in 1

Macronutrient

Glucose

g

Lipid

g

Protein

g

Vitamin

Vitamin Solution

ml

Water soluble

ml

Fat soluble

ml

Trace elements

ml

Acetate

mmol

Overage volume

0

ml

Electrolytes

Sodium(Natrium),Na+

mmol

Potassium(Kalium),K+

mmol

Calcium,Ca2+

mmol

Magnesium,Mg+

mmol

Phosphate,(PO4)2-

mmol

Lipid Syringe

0

ml

Volume Without Lipid

0

ml

Lipid Overage Volume

0

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	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% 250ml IV Sol	0		0	0	0	0	Lipid
Total Preparation	0			0	0	0	
					mOsmol/l		
					Content/L		

Calculate

PN Bag (Without lipid)

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	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

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STEP 7

Click on  button to save record

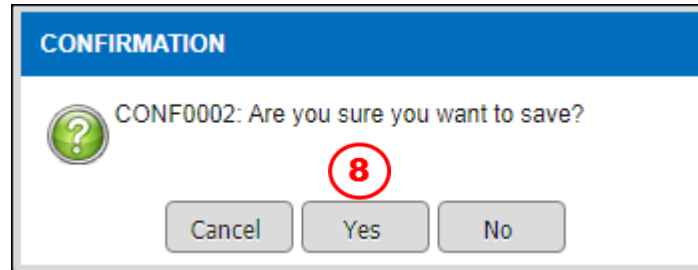
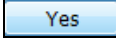


Figure 3.2.3.2-6 Confirmation Alert Message

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 Water soluble ml Acetate mmol Volume Without Lipid ml

Protein g Fat 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 (Vitlipid 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
Total Preparation	0			0	0	0	

 Calculate

PN Bag (Without lipid)

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	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
Amino acid 13.4% (Glamin) 500ml IV Soln	0			260.93	0	0	65.23	0	0	0	0	0	0	0
Sodium Acetate 2mmol/ml Injection	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
Sodium Chloride 3% 500mL IV soln	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
Calcium Gluconate 10% Injection	0			0	0	0	0	0	0	0	0	6.52	0	0
Magnesium Sulphate 50% Injection (49.3%/5mL)	0			0	0	0	0	0	0	0	0	0	6.52	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								
Total Preparation	2810			1043.71	0	195.7	65.23	0	39.14	65.23	65.23	6.52	6.52	0
					Content/L	69.64	23.21	0	13.93	23.21	23.21	2.32	2.32	0

 Calculate

	NPC:N Ratio	71 : 1
TOTAL content of Calcium and Phosphate	Calcium + Phosphate=	1.62 mmol/100ml
TOTAL content of Magnesium and Calcium	Calcium + Magnesium=	0.46 mmol/100ml

Figure 3.2.3.2-7 Prepare Worksheet

PN PREPARATION

Prescription 


 Address: Mother IC: Age: 09 Days Gender: Female MRN: HPSF00060075
 Phone And Email: Diagnosis: No known Allergies
 Height: 35 cm Weight: 3.5 kg BMI/BSA: 28.6 / 0.21 m² (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 9

PRESCRIPTION

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  **Worksheet** 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
Total Volume	2419	1 Bag		

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
Total Volume	206	1 Syringe		

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 m² (Last Updated : 22/12/2014) Nationality : Warganegara

Upload Photo

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

PRESCRIPTION

	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

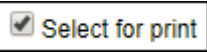
Lipid Bag
 Drug Name Lipid And Vitamins
 Total Volume 0 mL
 Infusion Over 24 Hour(s)
 Infusion Rate 0.04 mL/Hour
 Prepared Date/Time 27/09/2019 2:11 PM
 Expiry Date/Time 28/09/2019 2:11 PM
 Batch / Worksheet No A001-270919

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**, **Date Prepared** and **Shelf Life** field.
- Expiry Date** field will automatically display 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.
- The  button to cancel print label.

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR		
PARENTERAL NUTRITION (Adult)		
NAME : _____		
ID NO : _____		
AGE : 30 Years 04 Months 29 Days		
MRN : HPSF00268220	WARD/BED NO : KLINIK PAKAR PEMBEDAHAAN	
Total 3100 ml/bag		
Content	/ kg	/ bag
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 : A001-270919	Expiry Date : 28/09/2019	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 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

HOSPITAL PAKAR SULTANAH FATIMAH,			
NAME			
ID NO			
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			
ID NO			
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			
ID NO			
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 m² (Last Updated : 22/12/2014) Nationality : Warganegara

Upload Photo

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

	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

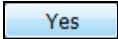
CONFIRMATION

 CONF0060: Do you want to proceed with the preparation?

11

Figure 3.2.3.2-16 Preparation Confirmation Alert Message

STEP 11

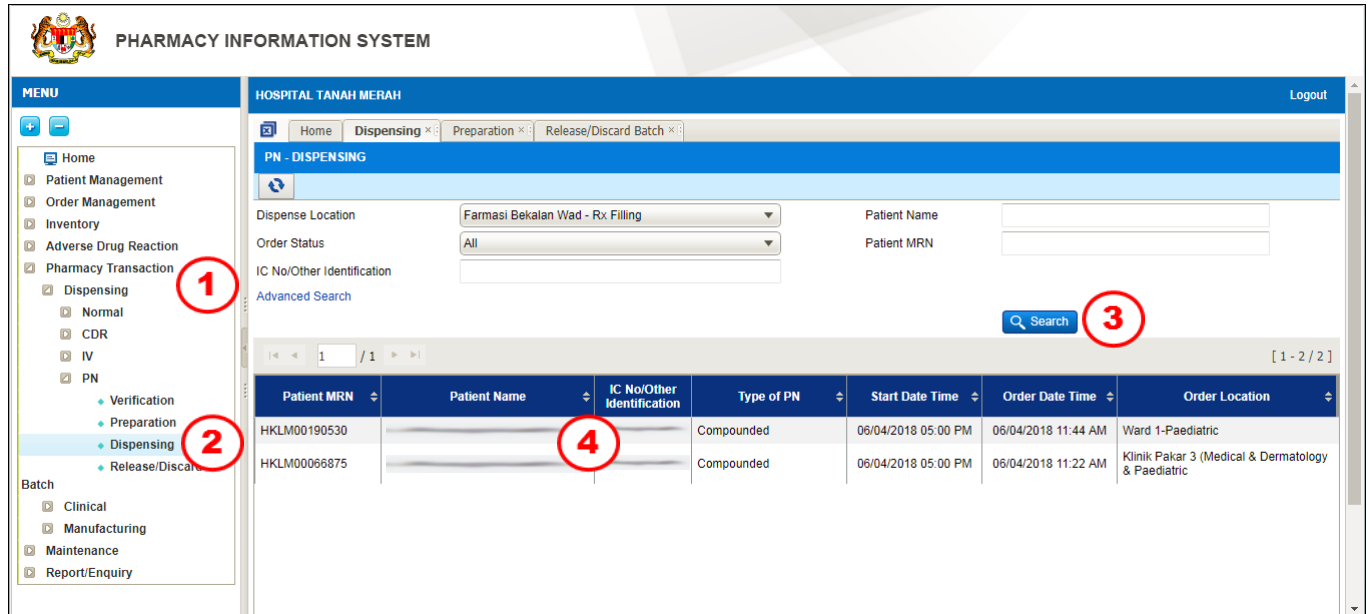
Click on the  button to confirm prepare order

Note

Proceed to Next Stage 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 Logout

Home Dispensing Preparation Release/Discard Batch

PN - DISPENSING

Dispense Location: Farmasi Bekalan Wad - Rx Filling Patient Name:

Order Status: All Patient MRN:

IC No/Other Identification:

Advanced Search

[1 - 2 / 2]

Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location
HKLM00190530			Compounded	06/04/2018 05:00 PM	06/04/2018 11:44 AM	Ward 1-Paediatric
HKLM00066875			Compounded	06/04/2018 05:00 PM	06/04/2018 11:22 AM	Klinik Pakar 3 (Medical & Dermatology & Paediatric)

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
- Type of PN
- Order Date
- Order Location

STEP 4

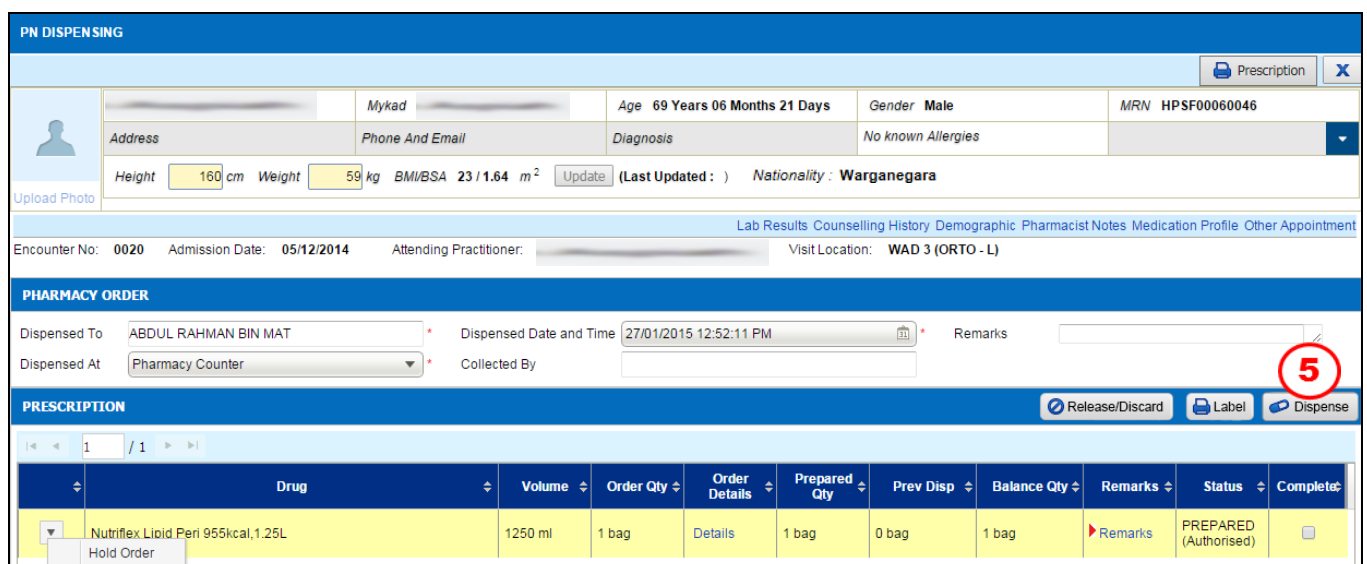
Double click on record and PN Dispensing screen will be displayed as Figure 3.3-2

Note

Search patient record based: -

Basic Search			
No	Field	Description	Remark
a	Dispense Location	Dispensing location. (It will list down all active 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>
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 duration of order created

Table 3.3-1: Search Criteria



The screenshot displays the 'PN DISPENSING' software interface. At the top, there's a header bar with 'PN DISPENSING' and a 'Prescription' button. Below this, a patient profile section shows details for 'Mykad', 'Age 69 Years 06 Months 21 Days', 'Gender Male', and 'MRN HPSF00060046'. It also includes fields for 'Address', 'Phone And Email', 'Diagnosis', and 'No known Allergies'. A 'Height' field is set to 160 cm and 'Weight' to 59 kg. Below the profile, there's a section for 'Lab Results', 'Counselling History', 'Demographic', 'Pharmacist Notes', 'Medication Profile', and 'Other Appointment'. The 'Encounter No' is 0020, 'Admission Date' is 05/12/2014, and 'Attending Practitioner' is listed. The 'Visit Location' is WAD 3 (ORTO - L). 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 'Remarks'. The 'Dispensed At' is Pharmacy Counter. The 'PRESCRIPTION' section at the bottom shows a list of prescriptions. The first prescription is for 'Nutriflex Lloid Peri 955kcal, 1.25L' with a volume of 1250 ml, order quantity of 1 bag, and prepared quantity of 1 bag. The status is 'PREPARED (Authorised)'. A red circle with the number '5' highlights the 'Hold Order' button next to the prescription.

Figure 3.3-2 PN Dispensing

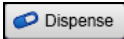
Note

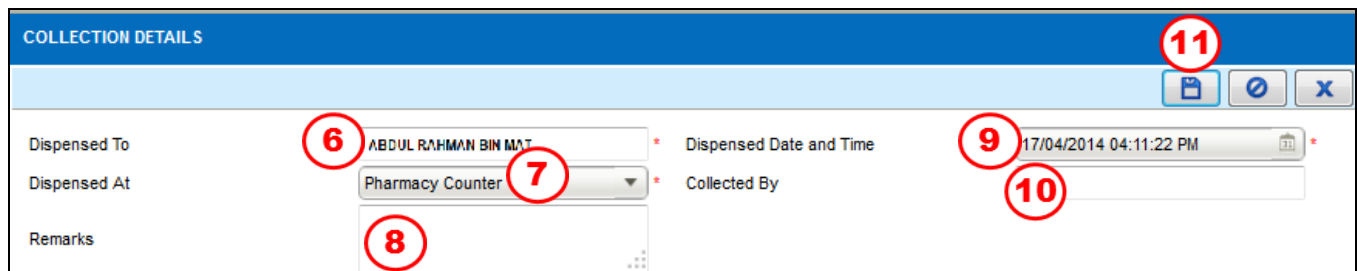
- Click on the  button to select **Hold Order** as per Figure 3.3-2.
- User only can do **Hold/Resume Order** at Dispensing screen.



- 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 form titled 'COLLECTION DETAILS' contains the following fields and annotations:

- Dispensed To:** Text field containing 'ABDUL RAHMAN BIN MAT' (annotated with 6).
- Dispensed Date and Time:** Text field containing '17/04/2014 04:11:22 PM' (annotated with 9).
- Dispensed At:** Dropdown menu showing 'Pharmacy Counter' (annotated with 7).
- Collected By:** Text field (annotated with 10).
- Remarks:** Text area (annotated with 8).
- Buttons:** Save (11), Refresh, and Close (X) buttons are in the top right corner.

Figure 3.3-3 Collections Details

STEP 6

Enter **Dispensed To**

Note

- **Dispensed To, Dispensed Date and Time and Dispensed 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 **Dispensed At**

STEP 8

Select **Remarks**

STEP 9

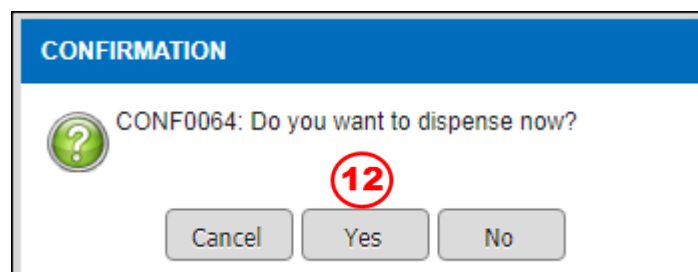
Select **Dispensed Date and Time**

STEP 10

Enter **Collected By**

STEP 11

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



The dialog box titled 'CONFIRMATION' contains the following elements:

- Icon:** A green circle with a white question mark (annotated with 12).
- Text:** 'CONF0064: Do you want to dispense now?'
- Buttons:** 'Cancel', 'Yes', and 'No' buttons.

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.

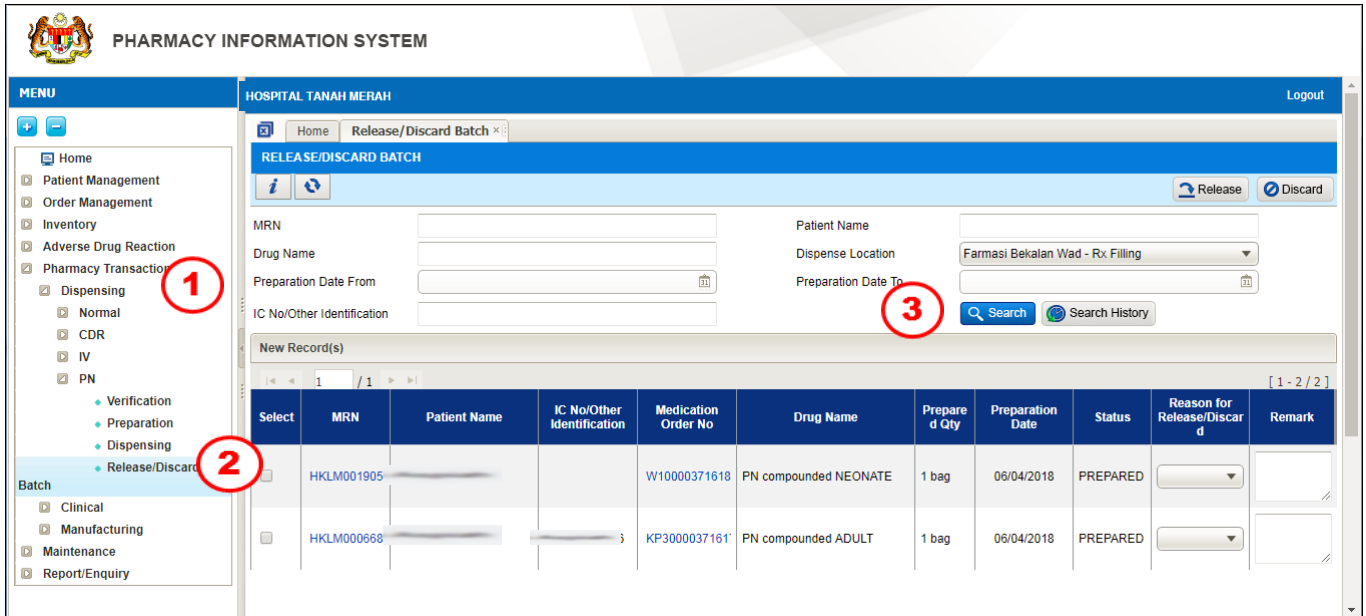


Figure 3.4-1 Release/Discard Batch Listing Page

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 location)	Able to filter and search patient name by dispensing location

Table 3.4-1: Patient Record Search

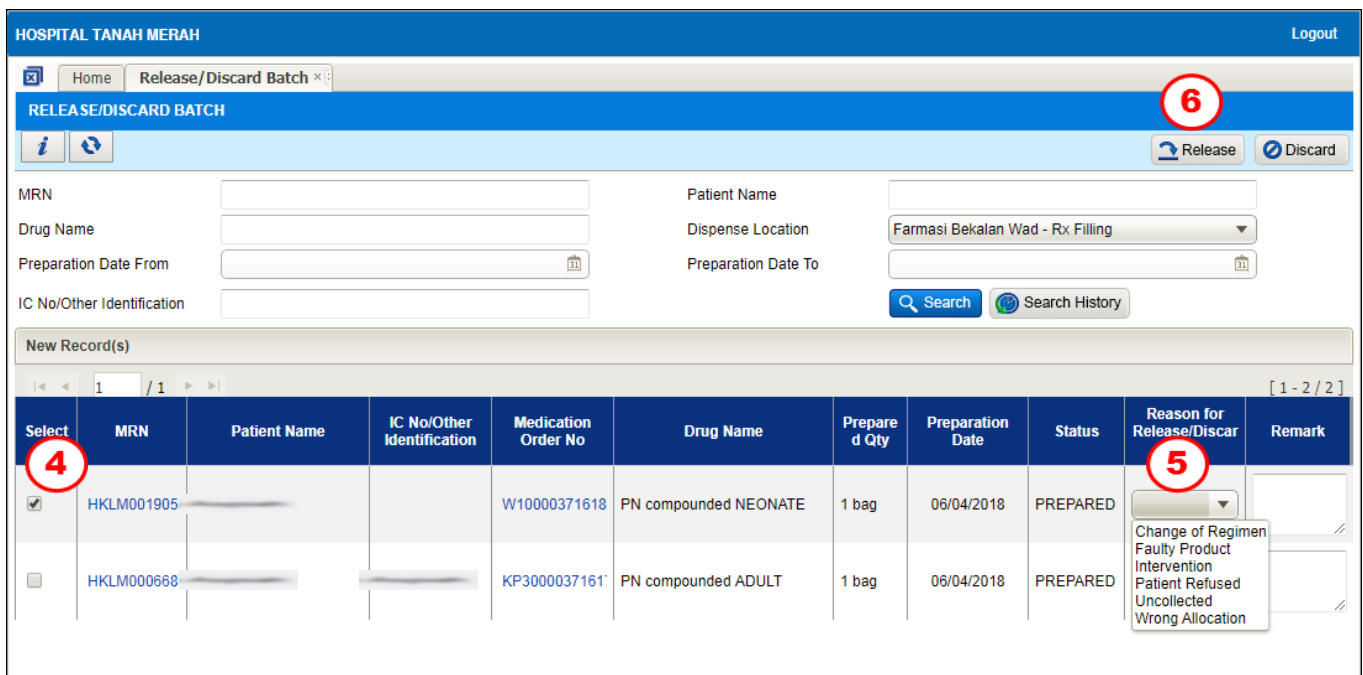
STEP 3

Click on the  button to search patient

Note

Search result of patient record list will be displayed:

- MRN
- Patient Name
- Drug Name
- Medication Order No
- Preparation Date
- Prepared Quantity
- Status
- Reason for Discard



HOSPITAL TANAH MERAH

Home Release/Discard Batch

RELEASE/DISCARD BATCH

MRN Patient Name

Drug Name Dispense Location Farmasi Bekalan Wad - Rx Filling

Preparation Date From Preparation Date To

IC No/Other Identification Search Search History

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
☒	HKLM001905			W10000371618	PN compounded NEONATE	1 bag	06/04/2018	PREPARED	Change of Regimen Faulty Product Intervention Patient Refused Uncollected Wrong Allocation	
☐	HKLM000668			KP3000037161	PN compounded ADULT	1 bag	06/04/2018	PREPARED		

Figure 3.4-2 Release/Discard Batch

STEP 4

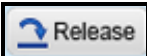
Select and check the ☒ checkbox to select order at the **Select** column

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

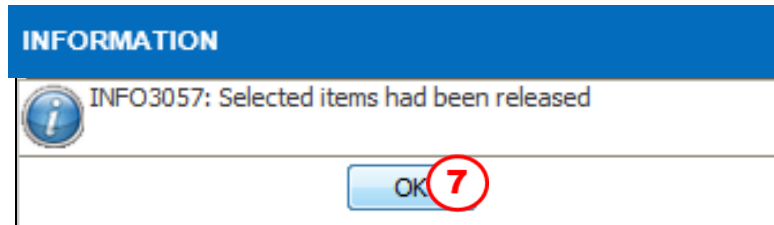
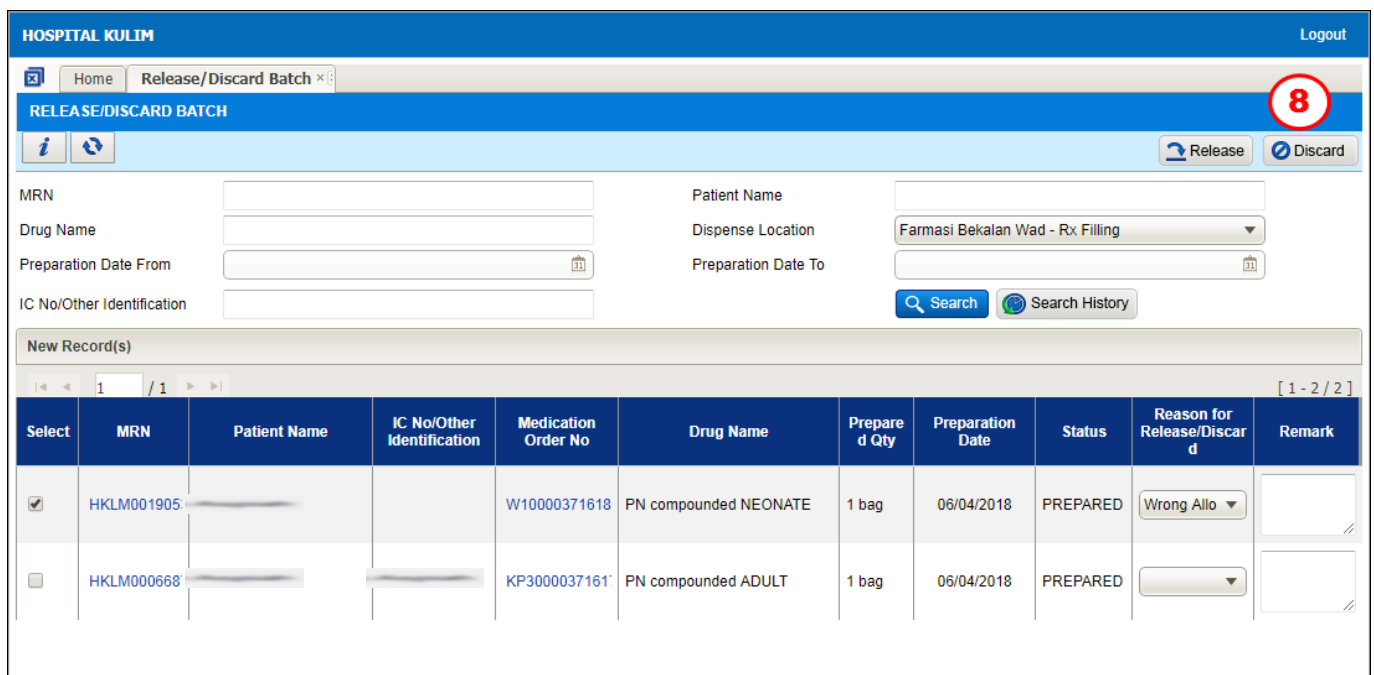


Figure 3.4-3 Information Alert Message

STEP 7

Click on the  button to release order batch



The screenshot shows the "HOSPITAL KULIM" interface with a "Release/Discard Batch" window. The window has a blue header with "RELEASE/DISCARD BATCH" and a "Logout" button. Below the header are "Release" and "Discard" buttons. The "Release" button is circled in red with the number 8. The interface includes fields for MRN, Patient Name, Drug Name, Dispense Location, Preparation Date From, Preparation Date To, and IC No/Other Identification. There are also "Search" and "Search History" buttons. Below these fields is a table with the following columns: Select, MRN, Patient Name, IC No/Other Identification, Medication Order No, Drug Name, Prepared Qty, Preparation Date, Status, Reason for Release/Discard, and Remark. The table contains two rows of data. The first row is selected, and the "Reason for Release/Discard" dropdown is set to "Wrong Allo". The second row is not selected. The table has a pagination bar at the bottom showing "1 / 1" and "[1 - 2 / 2]".

Figure 3.4-4 Release / Discard Batch

STEP 8

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

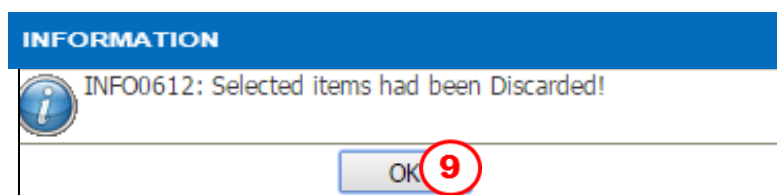


Figure 3.4-5 Information Alert Message

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 x

RELEASE/DISCARD BATCH

i
Refresh
Release
Discard

MRN
Patient Name
Drug Name
Dispense Location
Preparation Date From
Preparation Date To
IC No/Other Identification
Search
Search History

History Record(s)

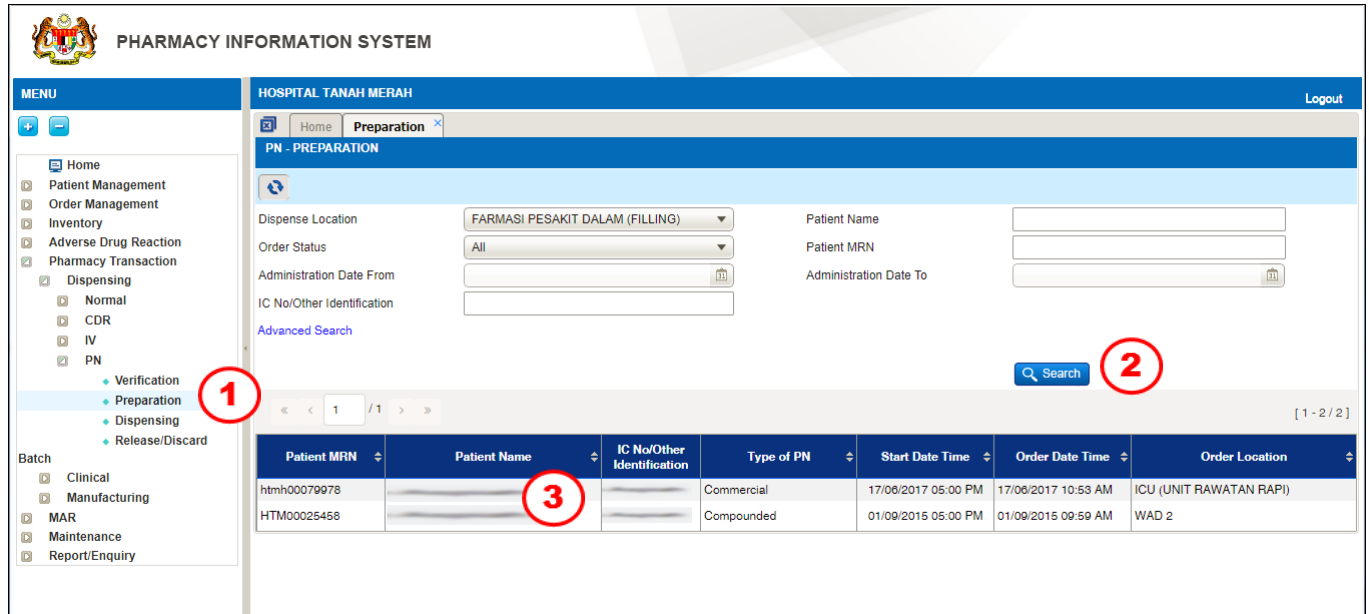
< < 1 / 1 > > [1 - 1 / 1]

MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
HSM209470	IMXXXXXX 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



PHARMACY INFORMATION SYSTEM

HOSPITAL TANAH MERAH Logout

Home Preparation

PN - PREPARATION

Dispense Location: FARMASI PESAKIT DALAM (FILLING) Patient Name:

Order Status: All Patient MRN:

Administration Date From: Administration Date To:

IC No/Other Identification:

[Advanced Search](#)

1 2

Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location
htmh00079978			Commercial	17/06/2017 05:00 PM	17/06/2017 10:53 AM	ICU (UNIT RAWATAN RAPI)
HTM00025458			Compounded	01/09/2015 05:00 PM	01/09/2015 09:59 AM	WAD 2

3

Figure 3.5-1 PN Preparation Listing Page

STEP 1

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

Mykad: [Redacted] Age: 32 Years 10 Months Gender: Female MRN: HKLM00066875

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

Height: 150 cm Weight: 50 kg BMI/BSA: 22.2 / 1.44 m² Update (Last Updated: 06/04/2018) Nationality: Warganegara

Upload Photo

Lab Parameter | Counseling 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 By: [Redacted]

Original Prescription Serial No: 13132

PHARMACY ORDER

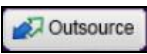
Prepared Date/Time: 06/04/2018 03:46 PM

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

Send Outsource Request

Mykad: [Redacted] Age: 14 Years 0 Months 23 Days Gender: Male MRN: HPSF00012482

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

Height: 180 cm Weight: 65 kg BMI/BSA: 20.1 / 1.79 m² Update (Last Updated:) Nationality: Warganegara

Upload Photo

PHARMACY ORDER

Outsource No: [Redacted]

Referred From: Hospital Pakar Sultanah Fatimah, Muar Referred To: KK Greentown

Contact Person / Office: Halim Abdullah Contact Person / Office: Mohd Zubir

Contact no / Ext No: 0173692581 Contact no / Ext No: 055622114

Request Date/Time: 17/04/2014 4:31 PM Tentative Receipt Date: 17/04/2014

Remarks: [Redacted]

Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks
TPN0000000943	17/04/2014 12:05:34 PM	Nutriflex Lipid Peri 955kcal, 1.25L	Details	1	Remarks

Figure3.5-3 Outsource Details

STEP 5

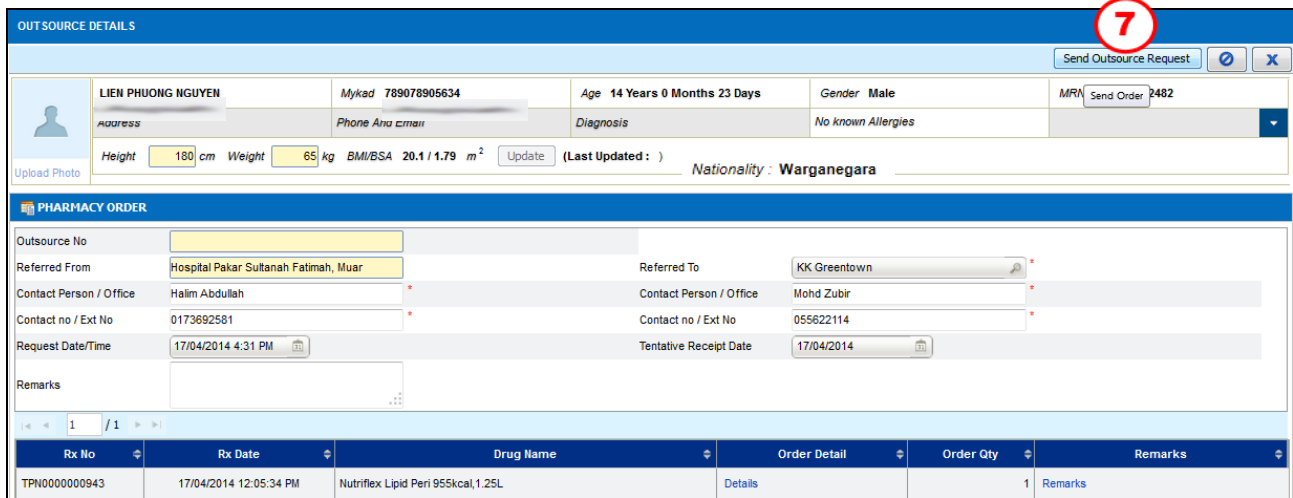
Enter **Contact Person/office, Contact No/Ext/No., Request Date/Time** and **Remarks**

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 Outsource Request

LIEN PHUONG NGUYEN Mykad 789078905634 Age 14 Years 0 Months 23 Days Gender Male MRN Send Order 2482

Address Phone And Email Diagnosis No known Allergies

Height 180 cm Weight 65 kg BMI/BSA 20.1 / 1.79 m² Update (Last Updated :) Nationality : Warganegara

PHARMACY ORDER

Outsource No Referred From Hospital Pakar Sultanah Fatimah, Muar Referred To KK Greentown

Contact Person / Office Halim Abdullah Contact Person / Office Mohd Zubir

Contact no / Ext No 0173692581 Contact no / Ext No 055622114

Request Date/Time 17/04/2014 4:31 PM Tentative Receipt Date 17/04/2014

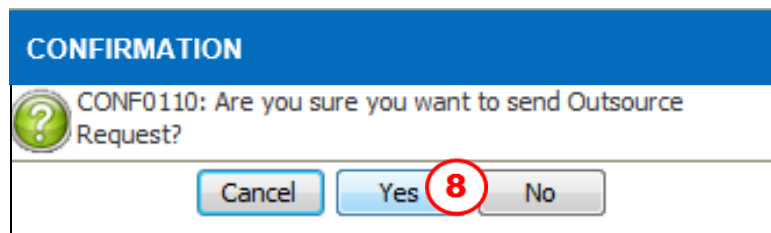
Remarks

Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks
TPN0000000943	17/04/2014 12:05:34 PM	Nutriflex Lipid Peri 955kcal, 1.25L	Details	1	Remarks

Figure 3.5-4 Outsource Details

STEP 7

Click on the **Send Outsource Request** button to send outsource request



CONFIRMATION

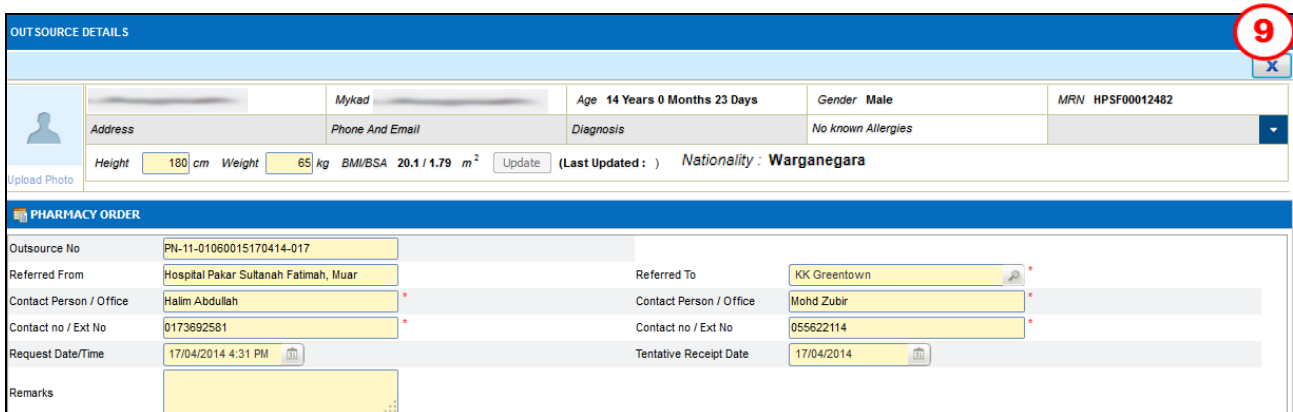
CONF0110: Are you sure you want to send Outsource Request?

Cancel Yes No

Figure 3.5-5 Send Request Alert Message

STEP 8

Click on the **Yes** button to send outsource request



OUTSOURCE DETAILS

X

Address Mykad Age 14 Years 0 Months 23 Days Gender Male MRN HPSF00012482

Phone And Email Diagnosis No known Allergies

Height 180 cm Weight 65 kg BMI/BSA 20.1 / 1.79 m² Update (Last Updated :) Nationality : Warganegara

PHARMACY ORDER

Outsource No PN-11-01060015170414-017

Referred From Hospital Pakar Sultanah Fatimah, Muar Referred To KK Greentown

Contact Person / Office Halim Abdullah Contact Person / Office Mohd Zubir

Contact no / Ext No 0173692581 Contact no / Ext No 055622114

Request Date/Time 17/04/2014 4:31 PM Tentative Receipt Date 17/04/2014

Remarks

Figure 3.5-6 Outsource Details

STEP 9

Click on the **X** 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	Inpatient	Click Here	12	CDR Dispensing	Click Here
2	CDR Order	Click Here	13	Methadone Dispensing	Click Here
3	TDM Order	Click Here	14	PN Dispensing	Click Here
4	PN Order	Click Here	15	Order Management	Click Here
5	IV Order	Click Here	16	Patient Management	Click Here
6	Prepacking	Click Here	17	Radiopharmaceuticals	Click Here
7	Galenical	Click Here	18	Outpatient	Click Here
8	MTAC	Click Here	19	Special Drug Request	Click Here
9	ADR & DAC	Click Here	20	MAR	Click Here
10	Medication Counselling	Click Here	21	DICE	Click Here
11	Ward Pharmacy	Click Here	22		