



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

Full Based User Manual Parenteral Nutrition (PN) Dispensing

Version	: 8th EDITION
Document ID	: FB_U. MANUAL_PN_DISPENSING



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Application reference: PhIS & CPS v1.8.1



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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/functionality. The primary objective is to help guide user through the process of completing PhIS application process.

User will understand the following activities in details:

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

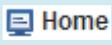
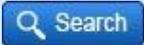
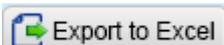
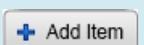
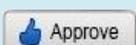
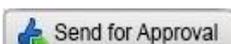
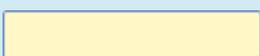
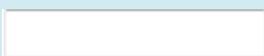
1.3 Organised Sections

These are the sections within this document:

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

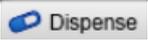
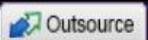
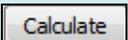
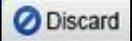
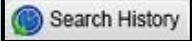
2.0 Application Standard Features

2.1 PhIS Legend

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



Parenteral Nutrition Dispensing Module Legend

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

Note

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

3.0 Parenteral Nutrition (PN) Dispensing

Overview

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

User Group

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

Functional Diagram

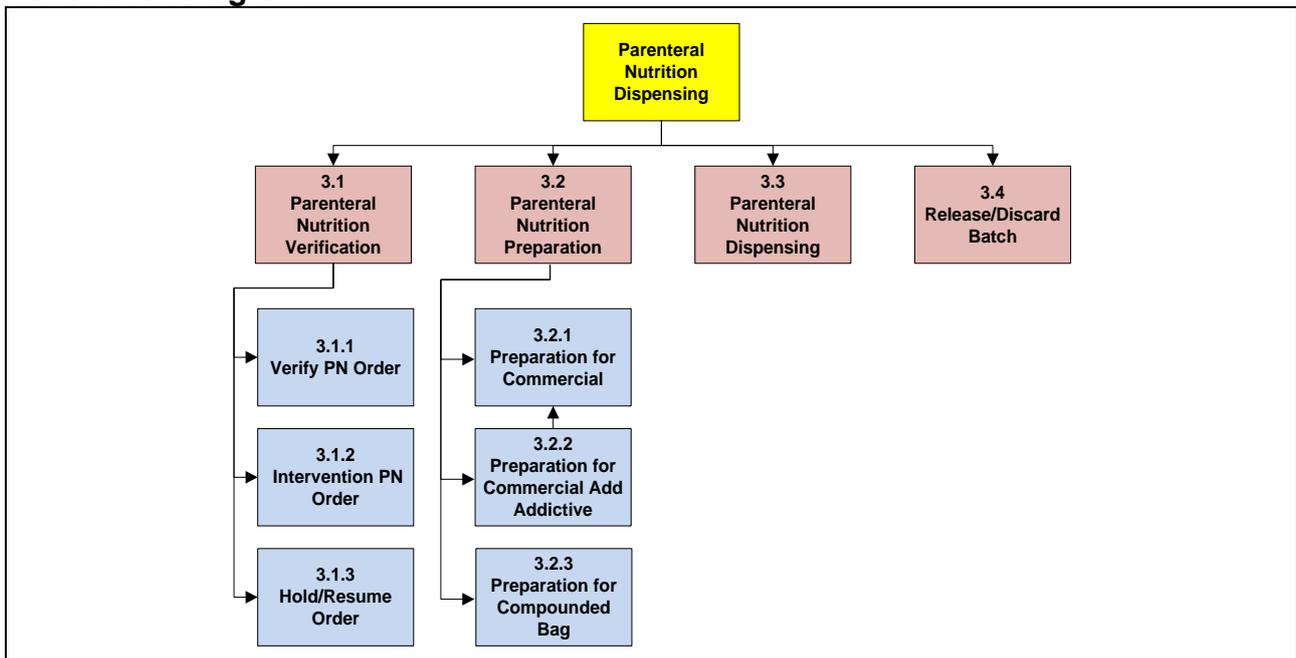


Figure 3.0-1

Functional Description

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

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

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



PN VERIFICATION Prescription X

Mykad: [Mykad] Age: 59 Years 11 Months 22 Days Gender: Male MRN: HTM00001280

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

Height: 153 cm Weight: 68 kg BMI/BSA: 29 / 1.7 m² Update (Last Updated : 24/01/2018) Nationality: Warganegara

Encounter No: 0006 Actual Visit Date: 24/01/2018 Attending Practitioner: [Practitioner] Visit Location: KLINIK PAKAR PERUBATAN Room No/Bed No: [Room No/Bed No] Rx No: [Rx No]

PHARMACY ORDER

Order Type: PN Order By: [Practitioner]
Ward: KLINIK PAKAR PERUBATAN Bed No: [Bed No]

PRESCRIPTION PROCEED TO PREPARATION Verify

1 / 1 [1 - 1 / 1]

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Nutrilflex Omega Plus 1266kcal 1250ml	1250 ml	1 bag	Details	Remarks	0 bag	ORDERED

Figure 3.1.1-2 PN Verification

Note

Patient's Banner

- Patient's Banner display patient's profile as per Figure 3.1.1-3
- User only can view patient's height and weight.
- System will automatically calculate the BMI/BSA in m².
- Click on the  button to view/print PN Prescription.

PN VERIFICATION Prescription X

Mykad: [Mykad] Age: 59 Years 11 Months 22 Days Gender: Male MRN: HTM00001280

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

Height: 153 cm Weight: 68 kg BMI/BSA: 29 / 1.7 m² Update (Last Updated : 24/01/2018) 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: [Practitioner]
Ward: KLINIK PAKAR PERUBATAN Bed No: [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	59 Years 11 Months 22 Days	Gender	Male	MRN	HTM00001280		
Address	Phone And Email	Diagnosis	No known Allergies						
Upload Photo	Height	153 cm	Weight	68 kg	BMI/BSA	29 / 1.7 m ² (Last Updated : 24/01/2018)		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
Nutriflex Omega Plus 1265kcal 1250ml	1250	1265	24	52.08 ml/hour	1 bag	OD (once daily)	1 Days	24/01/2018 05:00 PM	25/01/2018 05:00 PM
Calorie Calculator					Infusion Line				
NA					Central				
Intervention Reason			Intervention Remarks			Intervention Accepted			

Figure 3.1.1-5 PN Order Details

STEP 5

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

PN VERIFICATION									
	Mykad	Age	59 Years 11 Months 22 Days	Gender	Male	MRN	HTM00001280		
Address	Phone And Email	Diagnosis	No known Allergies						
Upload Photo	Height	153 cm	Weight	68 kg	BMI/BSA	29 / 1.7 m ² <input type="button" value="Update"/>		(Last Updated : 24/01/2018) Nationality : Warganegara	
Lab Parameter Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment									
Encounter No:	0006	Actual Visit Date:	24/01/2018	Attending Practitioner:	Visit Location:	KLINIK PAKAR PERUBATAN	Room No/Bed No:	Rx No:	
PHARMACY ORDER									
Order Type	PN			Order By					
Ward	KLINIK PAKAR PERUBATAN			Bed No	<input type="text"/>				
PRESCRIPTION									
								PROCEED TO PREPARATION	<input checked="" type="checkbox"/> Verify
[1 - 1 / 1]									
Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status			
Nutriflex Omega Plus 1265kcal 1250ml	1250 ml	1 bag	Details	Remarks	0 bag	ORDERED			

Figure 3.1.1-6 PN Verification

Note

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



3.1.2 Intervention Parenteral Nutrition (PN) Order

PN VERIFICATION

Prescription X

Mykad: [Redacted] Age: 59 Years 11 Months 22 Days Gender: Male MRN: HTM00001280

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

Height: 153 cm Weight: 68 kg BMI/BSA: 29 / 1.7 m² (Last Updated: 24/01/2018) Nationality: Warganegara

Encounter No: 0006 Actual Visit Date: 24/01/2018 Attending Practitioner: [Redacted] Visit Location: KLINIK PAKAR PERUBATAN Room No/Bed No: [Redacted] Rx No: [Redacted]

PHARMACY ORDER

Order Type: PN Order By: [Redacted]

Ward: KLINIK PAKAR PERUBATAN Bed No: [Redacted]

PRESCRIPTION PROCEED TO PREPARATION Verify

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Nutriliv Omega Plus 1265kcal 1250ml	1250 ml	1 bag	Details	Remarks	0 bag	ORDERED

Figure 3.1.2-1 PN Verification

Note

To proceed with Intervention PN Order, repeat **Step 1 to 4** from section 3.1.1 Verify PN Order.

STEP 1

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

2
History Confirm Refresh Close

INTERVENTION REASON

[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		●	
	Polypharmacy			
	Suggest to Monitor Vital Signs/Lab Result			
	Wrong Patient			

MODIFY ORDER

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

Nutriflex Omega Plus 1265kcal 1250ml Add Additive Body weight type: Actual Ideal Adjusted Body weight: 68 kg

Compounded

ADMINISTRATION INFO

Volume: 1250 ml	Indication for PN: Congenital diaphragmatic hernia
Frequency: OD (once daily)	Infusion Line: Central
Infusion Over: 24 hours	Order Quantity: 1 bag
Start Date/Time: 24/01/2018 05:00 PM	Duration: 1 Days
End Date/Time: 25/01/2018 05:00 PM	Dispense Location: FARMASI PESAKIT DALAM (FILLING)
	Remarks: 5644

PRESCRIPTION

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start Date/Time	End Date/Time
Nutriflex Omega Plus 1265kcal 1250ml	1250	1265	24 1 bag		OD (once daily)	1 Days	24/01/2018 05:00 PM	25/01/2018 05:00 PM
Calorie Calculator				Infusion Line				
NA				Central				

Figure 3.1.2-2 PN Intervention Order

Note

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

STEP 2

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

PN INTERVENTION ORDER

History Confirm Refresh Close

INTERVENTION REASON

[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		●	
	Polypharmacy			
	Suggest to Monitor Vital Signs/Lab Result			
	Wrong Patient			

MODIFY ORDER

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

Nutriflex Omega Plus 1265kcal 1250ml Add Additive Body weight type: Actual Ideal Adjusted Body weight: 68 kg

Compounded

ADMINISTRATION INFO

<p>Volume: 1250 ml</p> <p>Frequency: OD (once daily)</p> <p>Infusion Over: 24 hours</p> <p>Start Date/Time: 24/01/2018 05:00 PM</p> <p>End Date/Time: 25/01/2018 05:00 PM</p>	<p>Indication for PN: Congenital diaphragmatic hernia</p> <p>Infusion Line: Central</p> <p>Order Quantity: 1 bag</p> <p>Duration: 1 Days</p> <p>Dispense Location: FARMASI PESAKIT DALAM (FILLING)</p> <p>Remarks: 5644</p>
---	---

PRESCRIPTION

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start Date/Time	End Date/Time
Nutriflex Omega Plus 1265kcal 1250ml	1250	1265	24	1 bag	OD (once daily)	1 Days	24/01/2018 05:00 PM	25/01/2018 05:00 PM
Calorie Calculator				Infusion Line				
NA				Central				

Figure 3.1.2-3 PN Intervention Order

Note

- **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.



3.1.3 Hold/Resume Parenteral Nutrition (PN) Order

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

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 Duration

- Inappropriate Frequency
- Incompatibility
- Intervention
- Others
- 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

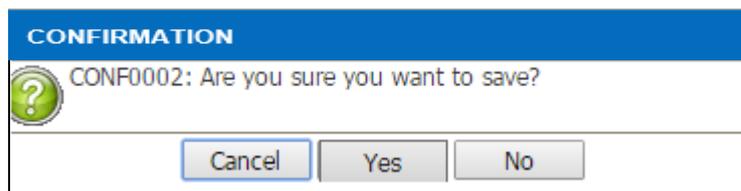
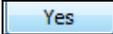


Figure 3.1.3-3 Confirmation Alert Message

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: 69 Years 06 Months 21 Days Gender: Male MRN: HPSF0060046

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

Height: 160 cm Weight: 59 kg BMI/BSA: 23 / 1.64 m² Update (Last Updated:) Nationality: Warganegara

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment

Encounter No: 0020 Admission Date: 05/12/2014 Attending Practitioner: [REDACTED] Visit Location: WAD 3 (ORTO - L)

PHARMACY ORDER

Order Type: PN Order By: [REDACTED]

Ward: WAD 3 (ORTO - L) Bed No: 1

PRESCRIPTION PROCEED TO PREPARATION Verify

Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Nutriflex Liquid 1.25L Intervention	1250 ml	1 bag	Details	Remarks	0 bag	ORDERED HOLD (Authorised)

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 Drug *

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  button to resume hold order

STEP 7

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

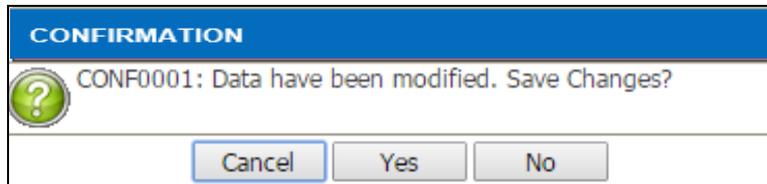


Figure 3.1.3-6 Confirmation Alert Message

Note

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

History

Note

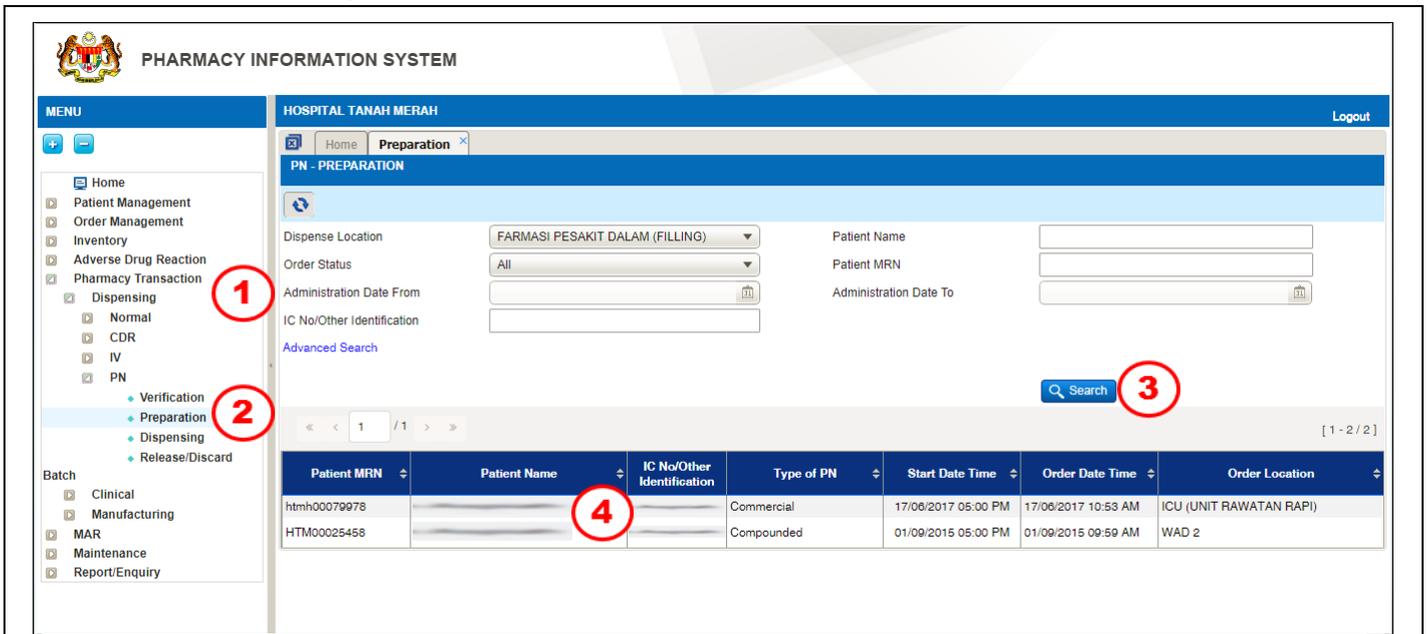
- Click on the  button to view history of hold order reason history listing as per Figure 3.1.3-7.
- Click on the  button to close Hold Order Reason History listing screen.

HOLD ORDER REASON HISTORY LISTING					
Date/Time	Screen	Hold Reason	Remarks	Resume Remarks	Updated By
27/01/2015 12:09 PM	Verification	Inappropriate Drug		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 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

Search

< < 1 / 1 > >

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

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

PN PREPARATION

Prescription X

Mykad [redacted] Age 43 Years 11 Months 03 Days Gender Male MRN htmh00079978

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

Height 172 cm Weight 75 kg BMI/BSA 25.4 / 1.89 m² (Last Updated : 17/06/2017) Nationality : Warganegara

Encounter No: 0284 Actual Admission Date: 14/06/2017 Attending Practitioner: [redacted] Visit Location: ICU (UNIT RAWATAN RAPI) Room No/Bed No: Rx No: ICU0000238796

PHARMACY ORDER

Prepared Date/Time: 04/04/2018 12:40 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Smof Kabiven Peripheral 800kcal, 1.2L	1206 ml	3 bag	Details	1 bag	3 bag	Remarks	0 bag	VERIFIED (Authorised)

Figure 3.2.1-2 PN Preparation

Note

Order Details

- Click on the [Details](#) hyperlink to view order details as per Figure 3.2.1-3.

PN ORDER DETAILS

Mykad [redacted] Age 43 Years 11 Months 03 Days Gender Male MRN htmh00079978

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

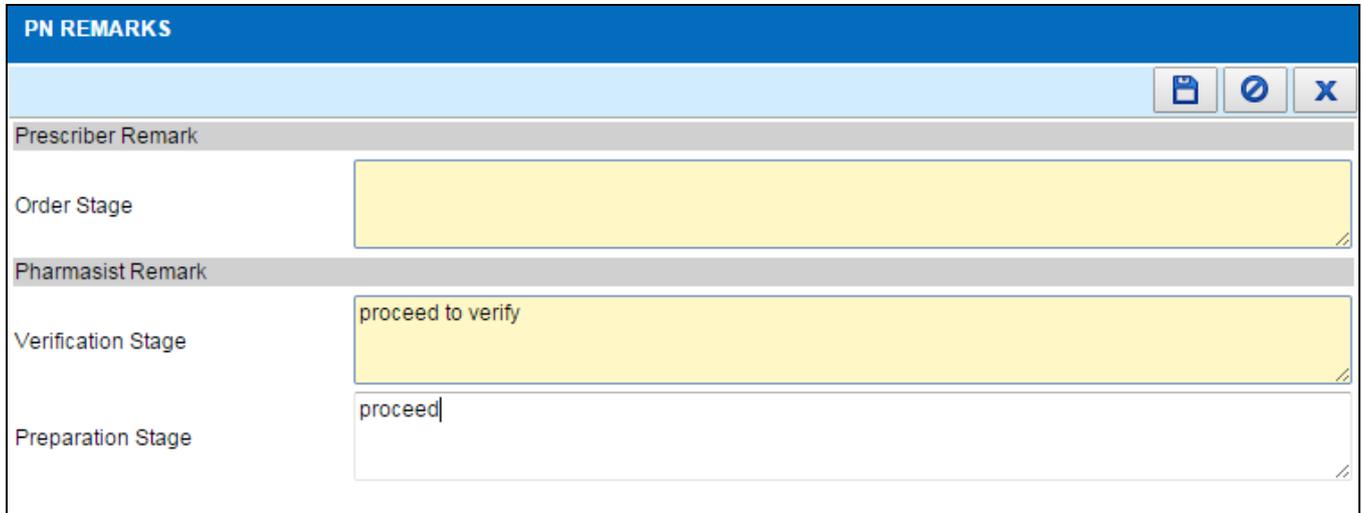
Height 172 cm Weight 75 kg BMI/BSA 25.4 / 1.89 m² (Last Updated : 17/06/2017) Nationality : Warganegara

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 800kcal, 1.2L	1206	800	24	50.25 ml/hour	3 bag	OD (once daily)	3 Days	17/06/2017 05:00 PM	20/06/2017 05:00 PM
Calorie Calculator			Infusion Line						
NA			Peripheral						
Intervention Reason			Intervention Remarks			Intervention Accepted			

Figure 3.2.1-3 PN Order Details

Note

Remarks



The screenshot shows a window titled "PN REMARKS" with a blue header and standard window controls (save, cancel, close). The window is divided into two main sections: "Prescriber Remark" and "Pharmacist Remark".

- Prescriber Remark:** Contains a text area for "Order Stage" which is currently empty.
- Pharmacist Remark:** Contains two text areas:
 - Verification Stage:** Contains the text "proceed to verify".
 - Preparation Stage:** Contains the text "proceed|".

Figure 3.2.1-4 PN Remarks

- Click on the [Remarks](#) hyperlink to display PN Remark as per Figure 3.2.1-4.
 - a) Prescriber Remark
 - **Order Stage** to be retrieved upon ordering.
 - b) Pharmacist Remark
 - **Verification Stage** to be retrieved during verification.
 - **Preparation Stage** to be retrieved during preparation.
- The  button to save record.
- The  button to close PN Remarks screen.
- The  button to cancel remark record.

PN PREPARATION

Prescription X

	Mykad	Age 43 Years 11 Months 03 Days	Gender Male	MRN htmh00079978
Address	Phone And Email	Diagnosis	No known Allergies	
Height 172 cm	Weight 75 kg	BMI/BSA 25.4 / 1.89 m ²	Update (Last Updated : 17/06/2017) Nationality : Warganegara	

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

Encounter No: 0284 Actual Admission Date: 14/06/2017 Attending Practitioner: Visit Location: ICU (UNIT RAWATAN RAPI) Room No/Bed No: Rx No: ICU0000238796

PHARMACY ORDER

Prepared Date/Time: 04/04/2018 12:40 PM

PRESCRIPTION

PROCEED TO DISPENSING Prepare Label

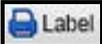
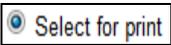
< > 1 / 1 < >

	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
▼	Smof Kabiven Peripheral 800kcal, 1.2L	1206 ml	3 bag	Details	1 bag	3 bag	Remarks	0 bag	VERIFIED (Authorised)

Figure 3.2.1-5 PN Preparation

Note

Edit Label

- Click on the  button to edit label and PN Edit Label window will display as per Figure 3.2.1-6.
- 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 3.2.1-7.
- The  button to close PN Edit Label window.
- The  button to cancel print label.

PN EDIT LABEL

Print X

Select for print

Drug Name	Smof Kabiven Peripheral 800kcal, 1.2L		
Total Volume	1206	ml	
Infusion Over	24	Hour(s)	
Infusion Rate	50.25	mL/Hour	Infusion Line
Prepared Date/Time	17/06/2017 12:22 PM		Shelf Life *
Expiry Date/Time	18/06/2017 12:22 PM		24 Hours
Batch/Worksheet No	10KF6782		

Figure 3.2.1-6 PN Edit Label

HOSPITAL TANAH MERAH		
Smof Kabiven Peripheral 800kcal, 1.2L		
NAME : 		
AGE : 43 Years 11 Months 03 Days		
MRN : htmh00079978	WARD/BED NO: ICU (UNIT RAWATAN RAPI)	
Total		1206 ml/bag
Content	/ kg	/ bag
Protein (g)	0.51	38
Dextrose (g)	1.13	85
Lipid (g)	0.45	34
Sodium (mmol)	0.4	30
Potassium (mmol)	0.31	23
Calcium (mmol)	0.03	1.9
Magnesium (mmol)	0.05	3.8
Phosphate (mmol)	0.13	9.9
Chloride (mmol)	0.36	27
Acetate (mmol)	1.05	79
Trace (ml)	0	0
Vitamins (ml)	0	0
Calories (kcal)	10.67	800
Osmolarity (mOsm/l)	11.33	850
Date and Time of Administration :		
Infusion Rate	50.25 mL/Hrs	
Batch No 10KF6782	Expiry Date 18/06/2017 12:22 PM	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 : PERIPHERAL LINE		

Figure 3.2.1-7 Sample Label

PN PREPARATION

	Mykad	Age 43 Years 11 Months 03 Days	Gender Male	MRN htmh00079978
Address	Phone And Email	Diagnosis	No known Allergies	
Height 172 cm	Weight 75 kg	BMI/BSA 25.4 / 1.89 m ²	<input type="button" value="Update"/> (Last Updated : 17/06/2017 : Nationality : Warganegara)	

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

Encounter No: 0284 Actual Admission Date: 14/06/2017 Attending Practitioner: Visit Location: ICU (UNIT RAWATAN RAPI) Room No/Bed No: Rx No: ICU0000238796

PHARMACY ORDER

Prepared Date/Time: 5

PRESCRIPTION PROCEED TO DISPENSING

< 1 / 1 >

	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
▼	Smof Kabiven Peripheral 800kcal, 1.2L	1206 ml	3 bag	Details	1 bag	3 bag	Remarks	0 bag	VERIFIED (Authorised)

Figure 3.2.1-8 PN Preparation

STEP 5

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?

Figure 3.2.1-9 Prepare Order Alert Message

STEP 6

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

ALTERNATE DRUG 5

Location	UNIT NUTRISI PARENTERAL	Ordered Drug Code	PNA00001
Dosage Form	Parenteral Solution	Ordered Drug Description	Nutriflex Lipid Peri 955kcal,1.25L
Route	INF	Alternate Drug Name	Smof Kabiven Central 1600kcal, 1.5L 1

BATCH DETAIL

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

Reason	3	Remark	4
--------	---	--------	---

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

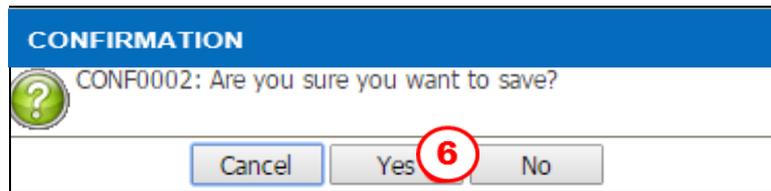


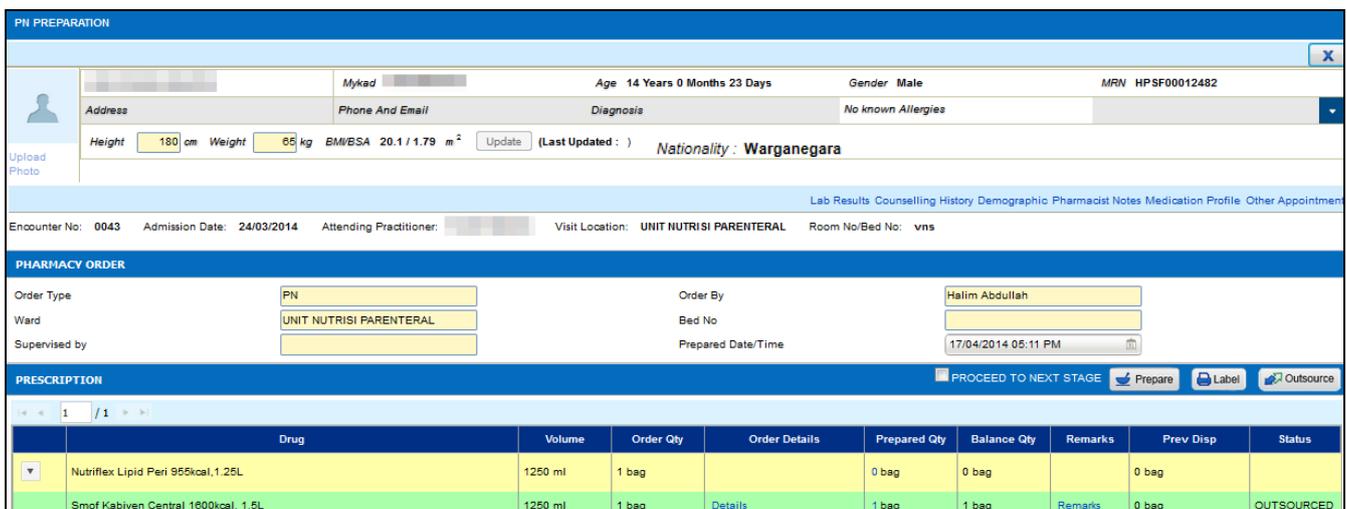
Figure 3.2.1.1-2 Confirmation Alert Message

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.



PHARMACY ORDER

Order Type: PN | Order By: Halim Abdullah
 Ward: UNIT NUTRISI PARENTERAL | Bed No:
 Supervised by: | Prepared Date/Time: 17/04/2014 05:11 PM

PRESCRIPTION

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Nutriflex Lipid Peni 955kcal, 1.25L	1250 ml	1 bag		0 bag	0 bag		0 bag	
Smof Kabiven Central 1800kcal, 1.5L	1250 ml	1 bag	Details	1 bag	1 bag	Remarks	0 bag	OUTSOURCED

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**.

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									
<p>UALIM BIN ALI Mykad 580626045387 Age 56 Years 07 Months 04 Days Gender Male MRN HPSF00008990</p> <p>Address Phone And Email Diagnosis Known Allergies</p> <p>Height 155 cm Weight 55 kg BMI/BSA 22.9 / 1.56 m² (Last Updated :) Nationality : Warganegara</p>									
Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Infusion Rate (ml/hour)	Quantity	Freq	Duration	Start Date / Time	End Date / Time
Nutriflex Lipid Peri 955kcal, 1.25L	NA	955	24	NA ml/hour	NA bag	OD (once daily)	3 Days	10/12/2014 05:00 PM	13/12/2014 05:00 PM
Nutriflex Lipid Peri 955kcal, 1.25L With Additive	1250	955	24	52.08 ml/hour	1 bag	OD (once daily)	1 Days	10/12/2014 05:00 PM	11/12/2014 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)	Multi Vitamin (ml)
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	40	NA	NA	NA	NA	NA	NA	NA
L-Glutamin (ml)			Calorie Calculator				Infusion Line		
NA			NA				Central		
NA			NA				Central		

Figure 3.2.2-2 PN Order Details

Remarks

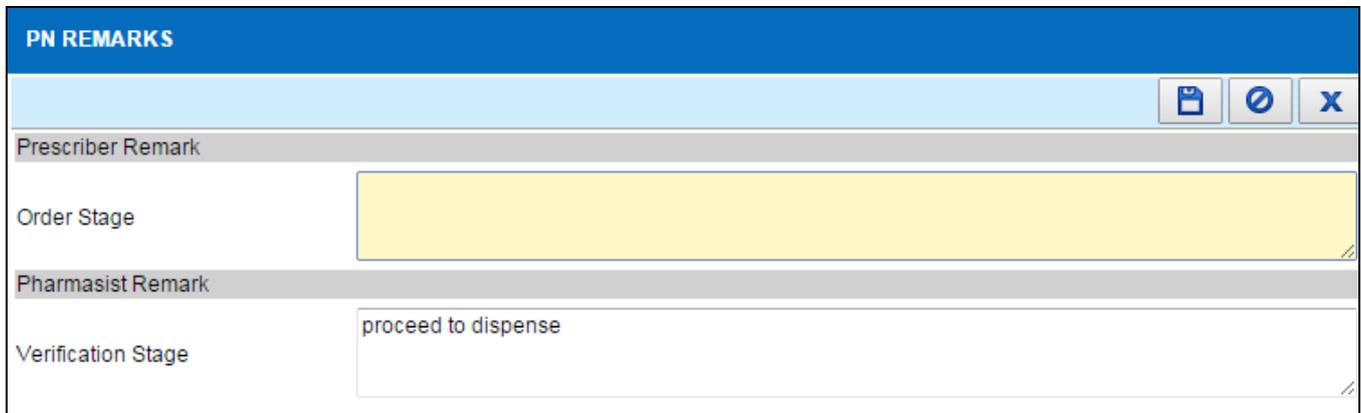


Figure 3.2.2-3 PN Order Details

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

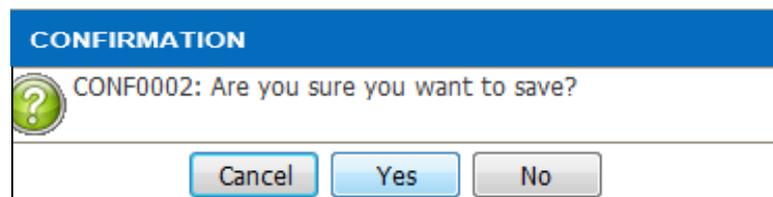


Figure 3.2.2-4 Confirmation Alert Message

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



PN PREPARATION

Prescription X

Mykad [redacted] Age 24 Years 0 Months 24 Days Gender Male MRN HPSF00012481

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

Height 185 cm Weight 65 kg BMI/BSA 19 / 1.81 m² Update (Last Updated : 26/03/2014) Nationality : Warganegara

Upload Photo

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment

Encounter No: 0042 Admission Date: 24/03/2014 Attending Practitioner: [redacted] Visit Location: UNIT NUTRISI PARENTERAL Room No/Bed No:

PHARMACY ORDER

Order Type PN Order By [redacted]

Ward UNIT NUTRISI PARENTERAL Bed No [redacted]

Supervised by [redacted] Prepared Date/Time 17/04/2014 03:18 PM

PRESCRIPTION PROCEED TO NEXT STAGE Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 955kcal,1.25L with Additive	1250 ml	1 bag	Details	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

Drug Code PNA00001 Default SKU bag

Drug Name Nutriflex Lipid Peri 955kcal,1.25L

BATCH DETAIL

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
DMHPSF14	31/03/2015	9990	1	2

Total Location Quantity 9990 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

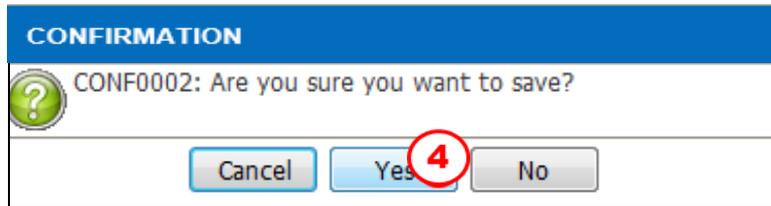
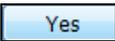


Figure 3.2.2-7 Confirmation Alert Message

STEP 4

Click on the  button to confirm save

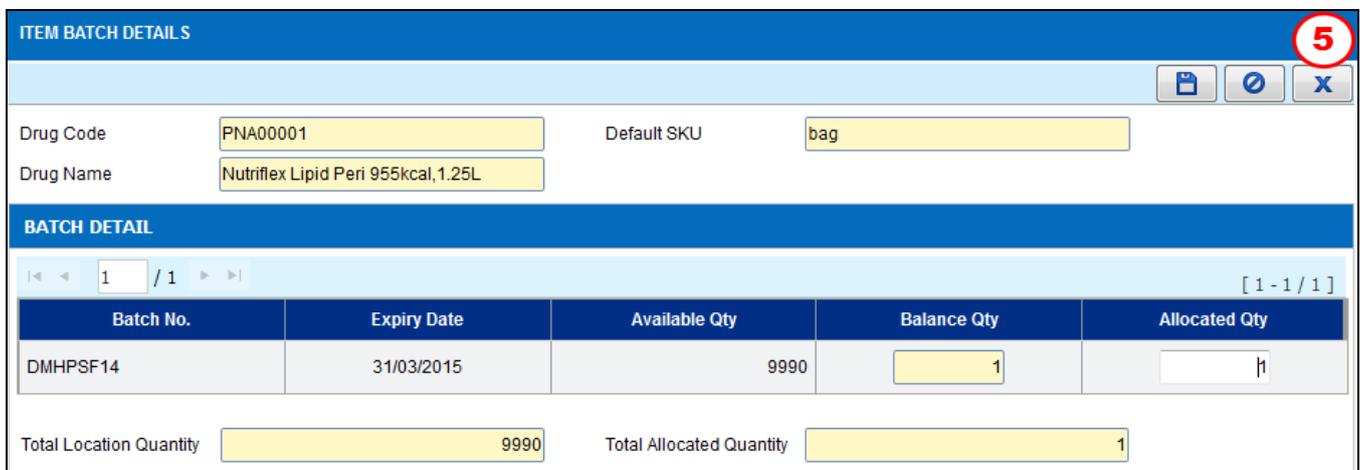


Figure 3.2.2-8 Item Batch Details

STEP 5

Click on the  button to close Item Batch Details window

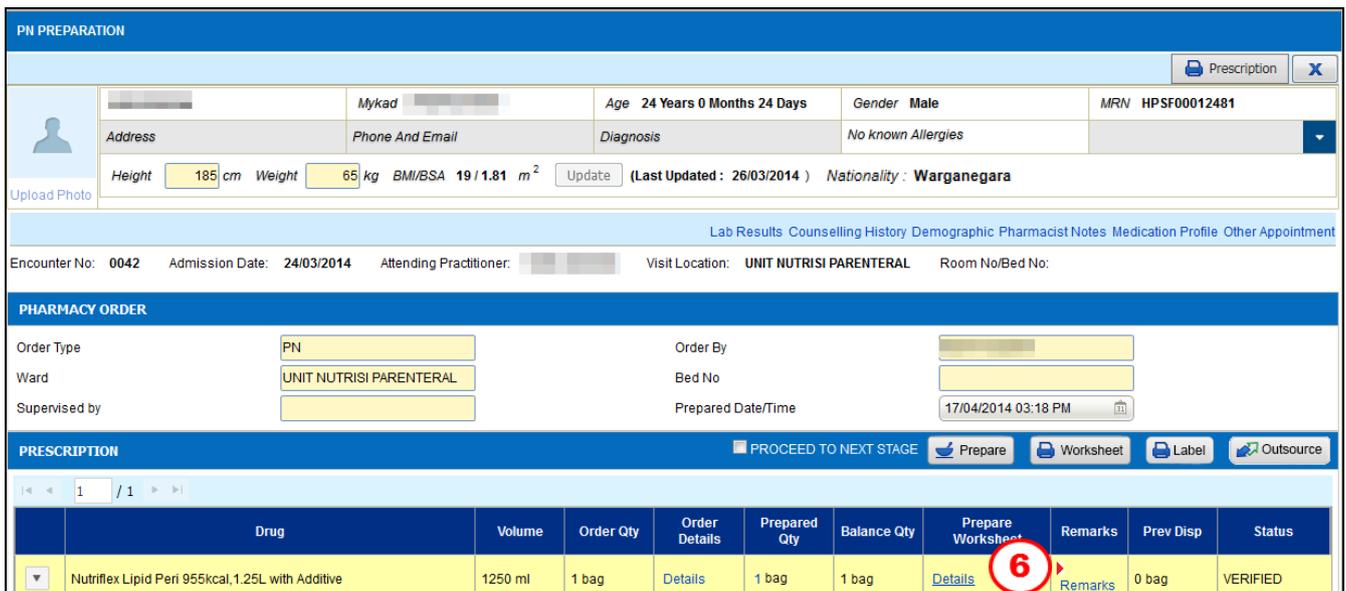


Figure 3.2.2-9 PN Preparation

STEP 6

Click on the **Details** button to prepare worksheet as per Figure 3.2.2-9

Note

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

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

Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol/l)	Content										
						Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
Fat emulsion, Lipofundin MCT/LCT 20% 250ml IV s	0		0	0	0	67	0	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	0		0	0	0	0	201	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasmal) 500ml IV Soln	0		0	0	0	0	0	134	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	0		0	0	0	0	0	0	0	40.2	0	0	0	0	0	0
Sodium Chloride 3% 500mL, IV soln	0		0	0	0	0	0	0	0	0	67	0	0	0	0	0
Potassium Chloride 1g/10ml Inj	0		0	0	0	0	0	0	0	0	0	67	0	0	0	0
Calcium Gluconate 10% Inj	0		0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
Magnesium Sulphate 50% Inj (49.3%/5mL)	0		0	0	0	0	0	0	0	0	0	0	0	0	3.35	0
Trace Element-Adult (Addamel N) 10mL Inj	10		0	0	0	Trace Elements										
Vitamin B and C (Soluvit N) 10 ml Inj	10		0	0	0	Vitamin Solutions										
Vitamin A, D, E, K (Vitalipid N Adult) 10ml Inj	10		0	0	0	Water Soluble Vitamins										
Amino acid 20% (Dipeptivan) 100ml IV Soln	100		0	0	0	Fat Soluble Vitamins										
Sterile Water for Inj 500mL	0		0	0	0	L-Glutamin										
						Water For Injection										
Total Preparation	0			0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 3.2.2-10 Prepare Worksheet

STEP 7

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 8

Click on the **Calculate** button to calculate the item volume and order quantity as per Figure 3.2.2-11



PREPARE WORKSHEET

Intervention Auto Allocation

DETAIL

TPN volume: 2000 ml Energy required: 2023 kcal Product category: 3 in 1 2 in 1

Macronutrient
 Glucose: 201 g Vitamin: Vitamin Solution: ml
 Lipid: 67 g Water soluble: 10 ml Trace elements: 10 ml
 Protein: 134 g Fat soluble: 10 ml Acetate: 0 mmol
 L-Glutamin: 100 ml

Electrolytes
 Sodium(Natrium),Na+: 67 mmol Calcium,Ca2+: 6.7 mmol Phosphate,(PO4)2-: 40.2 mmol
 Potassium(Kalium),K+: 67 mmol Magnesium,Mg+: 3.35 mmol

Item 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, Lipofundin MCT/LCT 20% 250ml IV S	335	2 bott	0	603	127.3	67	0	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	402	1 bott	0	804	1014.25	0	201	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasmal) 500ml IV Soln	893.33	2 bott	0	536	1152.4	0	0	134	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	40.2	5 amp	0	0	64.04	0	0	0	0	40.2	0	40.2	0	0	0	0
Sodium Chloride 3% 500mL IV soln	131.37	1 bott	0	0	135.31	0	0	0	0	0	67	0	0	0	0	67
Potassium Chloride 1g/10ml Inj	20	2 amp	0	0	54.06	0	0	0	0	0	0	26.8	0	0	0	26.8
Calcium Gluconate 10% Inj	30.45	4 amp	0	0	20.37	0	0	0	0	0	0	0	6.7	0	0	0
Magnesium Sulphate 50% Inj (49.3%/5mL)	1.68	1 amp	0	0	6.72	0	0	0	0	0	0	0	0	3.35	0	0
Trace Element-Adult (Addamel N) 10mL Inj	10	1 amp	0	0	31	Trace Elements										
Vitamin B and C (Soluvit N) 10 ml Inj	10	1 vial	0	0	4.9	Vitamin Solutions										
Vitamin A, D, E, K (Vitalipid N Adult) 10ml Inj	10	1 amp	0	0	3	Water Soluble Vitamins										
Amino acid 20% (Dipeptivan) 100ml IV Soln	100	1 bott	0	80	92.1	Fat Soluble Vitamins										
Sterile Water for Inj 500mL	15.96	1 bott	0	0	0	L-Glutamin										
						Water For Injection										
Total Preparation	2000			2023	1352.72 mOsmol/l	67	201	134	0	40.2	67	67	6.7	3.35	93.8	

Figure 3.2.2-11 Prepare Worksheet

STEP 9

Click on the button to save record and the system will display as per Figure 3.2.2-12

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

DETAIL

TPN volume: 2000 ml Energy required: 2023 kcal

Macronutrient
 Glucose: 201 g Vitamin: Vitamin Solution: ml Trace elements: 10 ml
 Lipid: 67 g Water soluble: 10 ml Acetate: 0 mmol
 Protein: 134 g Fat soluble: 10 ml L-Glutamin: 100 ml

Electrolytes
 Sodium(Natrium),Na+: 67 mmol Calcium,Ca2+: 6.7 mmol Phosphate,(PO4)2-: 40.2 mmol
 Potassium(Kalium),K+: 67 mmol Magnesium,Mg+: 3.35 mmol

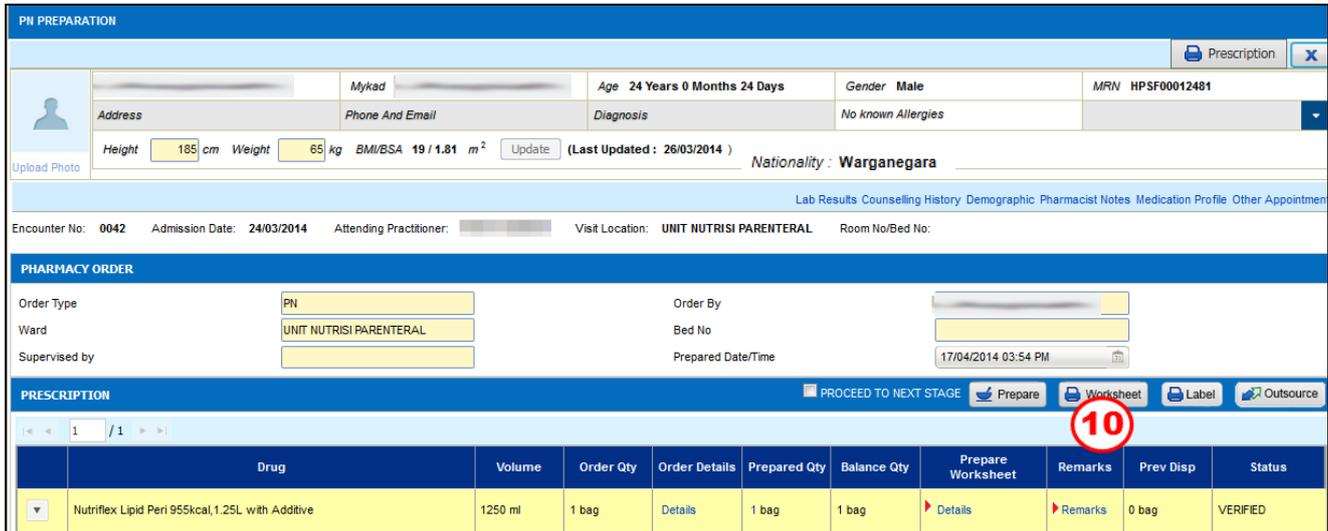
Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content										
						Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
Fat emulsion, Lipofundin MCT/LCT 20% 250ml IV S	335	2 bott	2 bott	603	127.3	67	0	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	402	1 bott	1 bott	804	1014.25	0	201	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasmal) 500ml IV Soln	893.33	2 bott	2 bott	536	1152.4	0	0	134	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	40.2	5 amp	5 amp	0	64.04	0	0	0	0	40.2	0	40.2	0	0	0	0
Sodium Chloride 3% 500mL IV soln	131.37	1 bott	1 bott	0	135.31	0	0	0	0	0	67	0	0	0	0	67
Potassium Chloride 1g/10ml Inj	20	2 amp	2 amp	0	54.06	0	0	0	0	0	0	26.8	0	0	0	26.8
Calcium Gluconate 10% Inj	30.45	4 amp	4 amp	0	20.37	0	0	0	0	0	0	0	6.7	0	0	0
Magnesium Sulphate 50% Inj (49.3%/5mL)	1.68	1 amp	1 amp	0	6.72	0	0	0	0	0	0	0	0	3.35	0	0
Trace Element-Adult (Addamel N) 10mL Inj	10	1 amp	1 amp	0	31	Trace Elements										
Vitamin B and C (Soluvit N) 10 ml Inj	10	1 vial	1 vial	0	4.9	Vitamin Solutions										
Vitamin A, D, E, K (Vitalipid N Adult) 10ml Inj	10	1 amp	1 amp	0	3	Water Soluble Vitamins										
Amino acid 20% (Dipeptivan) 100ml IV Soln	100	1 bott	1 bott	80	92.1	Fat Soluble Vitamins										
Sterile Water for Inj 500mL	15.96	1 bott	1 bott	0	0	L-Glutamin										
						Water For Injection										
Total Preparation	2000			2023	1352.72 mOsmol/l	67	201	134	0	40.2	67	67	6.7	3.35	93.8	

Figure 3.2.2-12 Prepare Worksheet

Note

- **Calorie (kcal), Osmolarity(mOsmol), Content and Total Preparation** will be calculated and displayed automatically by system as per Figure 3.2.2-12.

Untick the **Auto Allocation** to allocate manually.



PN PREPARATION

Prescription

Mykad: [Redacted] Age: 24 Years 0 Months 24 Days Gender: Male MRN: HPSF00012481

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

Height: 185 cm Weight: 65 kg BMI/BSA: 19 / 1.81 m² Update (Last Updated: 26/03/2014) Nationality: Warganegara

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointments

Encounter No: 0042 Admission Date: 24/03/2014 Attending Practitioner: [Redacted] Visit Location: UNIT NUTRISI PARENTERAL Room No/Bed No:

PHARMACY ORDER

Order Type: PN Order By: [Redacted]

Ward: UNIT NUTRISI PARENTERAL Bed No: [Redacted]

Supervised by: [Redacted] Prepared Date/Time: 17/04/2014 03:54 PM

PRESCRIPTION PROCEED TO NEXT STAGE Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 955kcal, 1.25L with Additive	1250 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 3.2.2-13 Prepare Preparation

STEP 10

Click on the button to print the worksheet

Note

- *Worksheet will display as per Figure 3.2.2-14.*
- **Allocated Quantity** column will be calculated and displayed automatically by system after click on the save button as per Figure 3.2.2-12.



NEONATE PARENTERAL NUTRITION WORKSHEET
MINISTRY OF HEALTH
Hospital Pakar Sultanah Fatimah

Patient Name : Worksheet : P006-241214
MRN : HPSF00060075 Prepared Date/Time : 24/12/2014 05:34 PM
Ward/Bed No : WAD 3 (ORTO - L) Prescription # : PEDC0000070906
Age : 09 Days
Gender : Female
Body Weight : 3.5 kg

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Amino acid 13.4% (Glamin) 500ml IV Soln	26.12	1 bottle	DMHPSF14	3.5 g
Sterile Water for Inj 500mL	3445.13	7 bottle	DUMMY	NA
Total Volume	3471.25	1 Bag		

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Fat emulsion, SMOFlipid 20% 100ml IV Soln	8.75	1 bottle	03	1.75 g
Total Volume	8.75	1 Syringe		

Worksheet Generated By : Date : 24/12/2014
Worksheet and Label Checked By : Supervised By :
Bag Prepared By :
Final Product Checked By :

Figure 3.2.2-14 Sample of PN Worksheet

Note

Sample of PN Worksheet as per Figure 3.2.2-13.

PH PREPARATION

Prescription

Address: Mykad: Age: 24 Years 0 Months 24 Days Gender: Male MRN: HPSF00012481
Phone And Email: Diagnosis: No known Allergies
Height: 185 cm Weight: 65 kg BMI/BSA: 19 / 1.81 m² Update (Last Updated: 26/03/2014) Nationality: Warganegara

Encounter No: 0042 Admission Date: 24/03/2014 Attending Practitioner: Visit Location: UNIT NUTRISI PARENTERAL Room No/Bed No:

PHARMACY ORDER

Order Type: PN Order By:
Ward: UNIT NUTRISI PARENTERAL Bed No:
Supervised by: Prepared Date/Time: 17/04/2014 03:54 PM

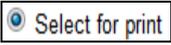
PRESCRIPTION PROCEED TO NEXT STAGE

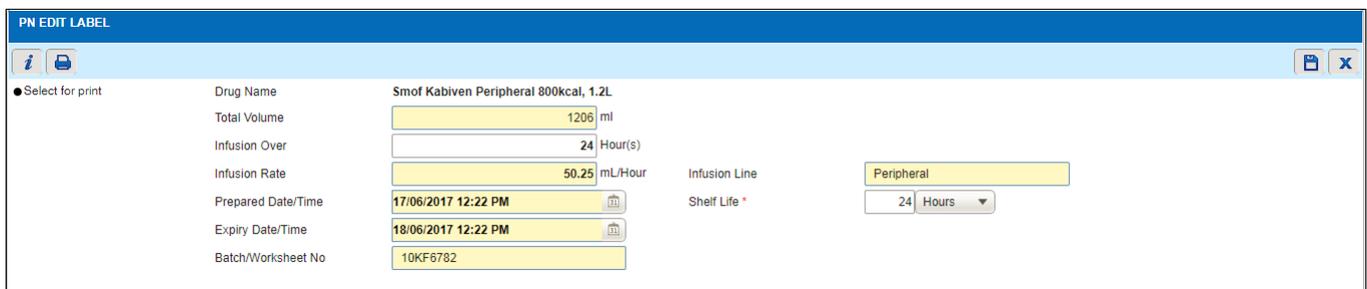
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 955kcal, 1.25L with Additive	1250 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 3.2.2-15 PN Preparation

Note

Edit Label

- Click on the  button to edit label as per Figure 3.2.2. 15 and PN Edit Label window will display as per Figure 3.2.2-16.
- 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.



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

Field	Value
Drug Name	Smof Kabiven Peripheral 800kcal, 1.2L
Total Volume	1206 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

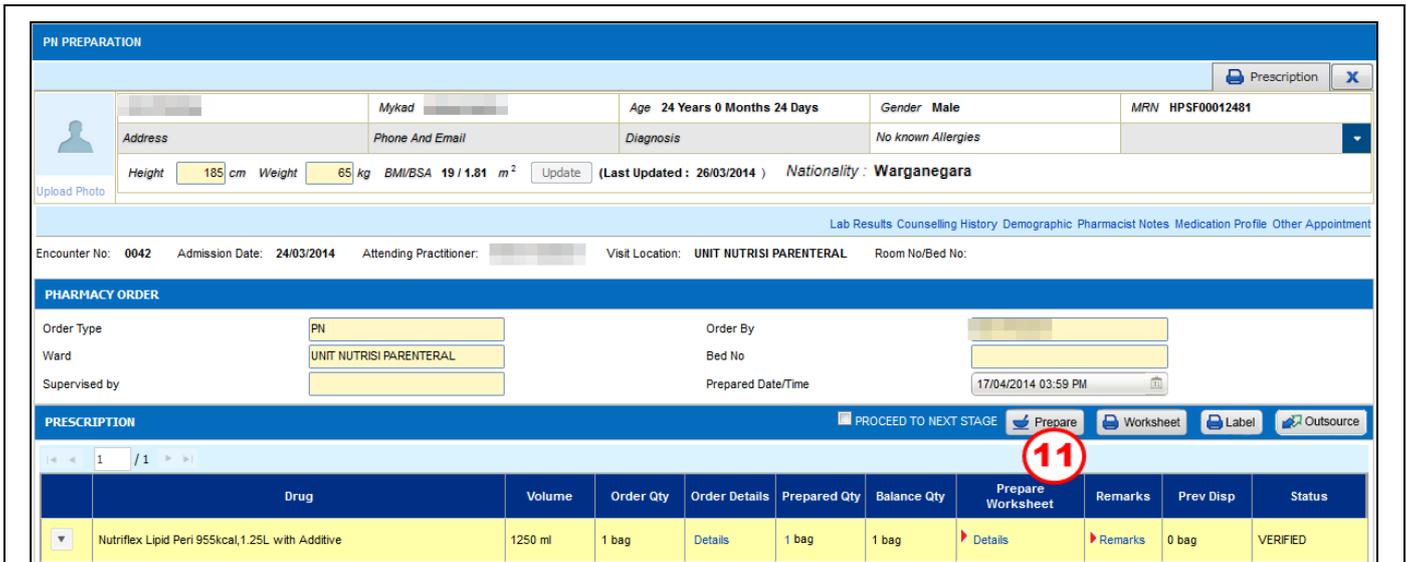
Figure 3.2.2-16 PN Edit Label

Note

- PN Label will display as per figure 3.2.2-17.
- Additional content will be bolded description and value.

HOSPITAL TANAH MERAH		
Smof Kabiven Peripheral 800kcal, 1.2L		
NAME : _____		
AGE : 43 Years 11 Months 03 Days		
MRN : htmh00079978	WARD/BED NO: ICU (UNIT RAWATAN RAPI)	
Total _____ 1208 ml/bag		
Content	/ kg	/ bag
Protein (g)	0.51	38
Dextrose (g)	1.13	85
Lipid (g)	0.45	34
Sodium (mmol)	0.4	30
Potassium (mmol)	0.31	23
Calcium (mmol)	0.03	1.9
Magnesium (mmol)	0.05	3.8
Phosphate (mmol)	0.13	9.9
Chloride (mmol)	0.36	27
Acetate (mmol)	1.05	79
Trace (ml)	0	0
Vitamins (ml)	0	0
Calories (kcal)	10.67	800
Osmolarity (mOsm/l)	11.33	850
Date and Time of Administration :		
Infusion Rate	50.25 mL/Hrs	
Batch No 10KF6782	Expiry Date 18/06/2017 12:22 PM	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 : PERIPHERAL LINE		

Figure 3.2.2-17 Sample of PN Label



PN PREPARATION

Prescription [X]

Mykad: [Redacted] Age: 24 Years 0 Months 24 Days Gender: Male MRN: HPSF00012481

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

Height: 185 cm Weight: 65 kg BMI/BSA: 19 / 1.81 m² Update (Last Updated: 26/03/2014) Nationality: Warganegara

Lab Results Counseling History Demographic Pharmacist Notes Medication Profile Other Appointment

Encounter No: 0042 Admission Date: 24/03/2014 Attending Practitioner: [Redacted] Visit Location: UNIT NUTRISI PARENTERAL Room No/Bed No:

PHARMACY ORDER

Order Type: PN Order By: [Redacted]

Ward: UNIT NUTRISI PARENTERAL Bed No: [Redacted]

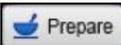
Supervised by: [Redacted] Prepared Date/Time: 17/04/2014 03:59 PM

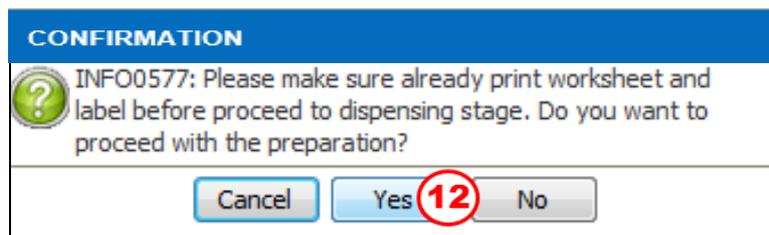
PRESCRIPTION [PROCEED TO NEXT STAGE] [Prepare] [Worksheet] [Label] [Outsource]

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 955kcal, 1.25L with Additive	1250 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 3.2-18 PN Preparation

STEP 11

Click on the  button to prepare PN order and alert message will be displayed as per Figure 3.2-19



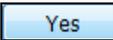
CONFIRMATION

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 3.2-19 Preparation Confirmation Alert Message

STEP 12

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



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

The screenshot shows the 'PN PREPARATION' interface. At the top, there are buttons for 'Prescription' and 'X'. Below that, patient information is displayed: Mother IC, Age (01 Years 01 Months 24 Days), Gender (Male), MRN (HTM00025458), Address, Phone And Email, Diagnosis, No known Allergies, Height (48 cm), Weight (1.8 kg), BMI/BSA (7.8 / 0.15 m²), and Nationality (Warganegara). Below this is a 'PHARMACY ORDER' section with 'Prepared Date/Time' set to 21/10/2016 02:24 AM. The 'PRESCRIPTION' section has a 'PROCEED TO DISPENSING' button and options for 'Prepare', 'Worksheet', 'Label', and 'Outsource'. A table below shows one entry: 'PN Compounded Neonate' with Volume 252 ml, Order Qty 1 bag, and a 'Details' link circled in red. Other columns include Prepared Qty (1 bag), Balance Qty (1 bag), Remarks, Prev Disp (0 bag), and Status (VERIFIED).

Figure 3.2.3.1-1 PN Preparation

The screenshot shows the 'PN ORDER DETAILS' interface. It displays patient information: Mykad, Age (58 Years 11 Months 26 Days), Gender (Male), MRN (HPSF00028523), Address, Phone And Email, Diagnosis, No known Allergies, Height (168 cm), Weight (67 kg), BMI/BSA (23.7 / 1.78 m²), and Nationality (Warganegara). Below this is a table with columns: Drug Name, Total Volume ml per kg (ml), Total calorie kkal per kg (kcal), Infusion Over (hour), Infusion Rate (ml/hour), Quantity, Freq, Duration, Start Date / Time, and End Date / Time. The table lists 'PN Compounded Adult' with a quantity of 1 BAG and frequency of OD. Below this is a table with columns: 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), and Multi Vitamin ml per kg (ml). The table shows values for Phosphate (0.6 (40.2)), Sodium (1 (67)), Potassium (1 (67)), Calcium (0.1 (6.7)), Magnesium (0.05 (3.35)), Acetate (NA), Trace Element (0.15 (10)), Fat Soluble Vit. (0.15 (10)), and Water Soluble Vit. (0.15 (10)). Below this is a table with columns: L-Glutamin ml per kg (ml), Protein g per kg (g), Carbohydrate g per kg (g), Lipid g per kg (g), Calorie Calculator, and Infusion Line. The table shows values for L-Glutamin (1.49 (100)), Protein (2 (134)), Carbohydrate (3 (201)), and Lipid (1 (67)).

Figure 3.2.3.1-2 PN Order Details

STEP 1



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

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 2 3 in 1 2 in 1

Trace elements ml

Acetate mmol

L-Glutamin ml

Phosphate,(PO4)2- mmol

Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolality (mOsmol/l)	Content										
						Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
Fat emulsion, Lipofundin MCT/LCT 20% 250ml IV s	0		0	0	0	67	0	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	0		0	0	0	0	201	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasmat) 500ml IV Soln	0		0	0	0	0	0	134	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	0		0	0	0	0	0	0	0	40.2	0	0	0	0	0	0
Sodium Chloride 3% 500mL IV soln	0		0	0	0	0	0	0	0	0	67	0	0	0	0	0
Potassium Chloride 1g/10ml Inj	0		0	0	0	0	0	0	0	0	0	67	0	0	0	0
Calcium Gluconate 10% Inj	0		0	0	0	0	0	0	0	0	0	0	6.7	0	0	0
Magnesium Sulphate 50% Inj (49.3%/5mL)	0		0	0	0	0	0	0	0	0	0	0	0	3.35	0	0
Trace Element-Adult (Addamel N) 10mL Inj	10		0	0	0	Trace Elements										
Vitamin B and C (Solvit N) 10 ml Inj	10		0	0	0	Vitamin Solutions										
Vitamin A, D, E, K (Vitalipid N Adult) 10ml Inj	10		0	0	0	Water Soluble Vitamins										
Amino acid 20% (Dipeptivan) 100ml IV Soln	100		0	0	0	Fat Soluble Vitamins										
Sterile Water for Inj 500mL	0		0	0	0	L-Glutamin										
						Water For Injection										
Total Preparation	0			0	0	0	0	0	0	0	0	0	0	0	0	0

4

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: 2000 ml Energy required: 2023 kcal Product category: 3 in 1 2 in 1

Macronutrient: Glucose 201 g Lipid 67 g Protein 134 g

Vitamin: Vitamin Solution ml Water soluble 10 ml Fat soluble 10 ml

Electrolytes: Sodium(Natrium),Na+ 67 mmol Potassium(Kalium),K+ 67 mmol Calcium,Ca2+ 6.7 mmol Magnesium,Mg+ 3.35 mmol

Trace elements: 10 ml Acetate: 0 mmol L-Glutamin: 100 ml Phosphate,(PO4)2-: 40.2 mmol

Item 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, Lipofundin MCT/LCT 20% 250ml IV S	335	2 bott	0	603	127.3	67	0	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	402	1 bott	0	804	1014.25	0	201	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasmal) 500ml IV Soln	893.33	2 bott	0	536	1152.4	0	0	134	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	40.2	5 amp	0	0	64.04	0	0	0	0	40.2	0	40.2	0	0	0	0
Sodium Chloride 3% 500mL IV soln	131.37	1 bott	0	0	135.31	0	0	0	0	0	67	0	0	0	0	67
Potassium Chloride 1g/10ml Inj	20	2 amp	0	0	54.06	0	0	0	0	0	0	26.8	0	0	0	26.8
Calcium Gluconate 10% Inj	30.45	4 amp	0	0	20.37	0	0	0	0	0	0	0	6.7	0	0	0
Magnesium Sulphate 50% Inj (49.3%/5mL)	1.68	1 amp	0	0	6.72	0	0	0	0	0	0	0	0	3.35	0	0
Trace Element-Adult (Addamel N) 10mL Inj	10	1 amp	0	0	31	Trace Elements										
	0	0	0	0	0	Vitamin Solutions										
Vitamin B and C (Soluvit N) 10 ml Inj	10	1 vial	0	0	4.9	Water Soluble Vitamins										
Vitamin A, D, E, K (Vitalipid N Adult) 10ml Inj	10	1 amp	0	0	3	Fat Soluble Vitamins										
Amino acid 20% (Dipeptivan) 100ml IV Soln	100	1 bott	0	80	92.1	L-Glutamin										
Sterile Water for Inj 500mL	15.96	1 bott	0	0	0	Water For Injection										
Total Preparation	2000			2023	1352.72 mOsmol/l	67	201	134	0	40.2	67	67	6.7	3.35	93.8	

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?

Figure 3.2.3.1-5 Confirmation Alert Message

STEP 6

Click on the button to save record and alert message will be displayed as per Figure 3.2.3.1-6

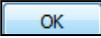
INFORMATION

INFO3255: Allocation has been done.

Figure 3.2.3.1-6 Information Alert Message



STEP 7

Click on the  button to confirm and the system will allocate automatically as per Figure 3.2.3.1-7

DETAIL

TPN volume: 2000 ml Energy required: 2023 kcal 7

Macronutrient

Glucose: 201 g Vitamin Solution: ml Trace elements: 10 ml

Lipid: 67 g Water soluble: 10 ml Acetate: 0 mmol

Protein: 134 g Fat soluble: 10 ml L-Glutamin: 100 ml

Electrolytes

Sodium(Natrium),Na+: 67 mmol Calcium,Ca2+: 6.7 mmol Phosphate,(PO4)2-: 40.2 mmol

Potassium(Kalium),K+: 67 mmol Magnesium,Mg+: 3.35 mmol

Item 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, Lipofundin MCT/LCT 20% 250ml IV s	335	2 bott	2 bott	603	127.3	67	0	0	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	402	1 bott	1 bott	804	1014.25	0	201	0	0	0	0	0	0	0	0	0	0
Amino acid 15% (Aminoplasmal) 500ml IV Soln	893.33	2 bott	2 bott	536	1152.4	0	0	134	0	0	0	0	0	0	0	0	0
Potassium Dihydrogen Phosphate Injection	40.2	5 amp	5 amp	0	64.04	0	0	0	0	40.2	0	40.2	0	0	0	0	0
Sodium Chloride 3% 500mL IV soln	131.37	1 bott	1 bott	0	135.31	0	0	0	0	0	67	0	0	0	0	0	67
Potassium Chloride 1g/10ml Inj	20	2 amp	2 amp	0	54.06	0	0	0	0	0	0	26.8	0	0	0	0	26.8
Calcium Gluconate 10% Inj	30.45	4 amp	4 amp	0	20.37	0	0	0	0	0	0	0	6.7	0	0	0	0
Magnesium Sulphate 50% Inj (49.3%/5mL)	1.68	1 amp	1 amp	0	6.72	0	0	0	0	0	0	0	0	3.35	0	0	0
Trace Element-Adult (Addamel N) 10mL Inj	10	1 amp	1 amp	0	31	Trace Elements											
Vitamin B and C (Soluvit N) 10 ml Inj	10	1 vial	1 vial	0	4.9	Vitamin Solutions											
Vitamin A, D, E, K (Vitalipid N Adult) 10ml Inj	10	1 amp	1 amp	0	3	Water Soluble Vitamins											
Amino acid 20% (Dipeptivan) 100ml IV Soln	100	1 bott	1 bott	80	92.1	Fat Soluble Vitamins											
Sterile Water for Inj 500mL	15.96	1 bott	1 bott	0	0	L-Glutamin											
Total Preparation	2000			2023	1352.72 mOsmol/l	67	201	134	0	40.2	67	67	6.7	3.35	93.8		

Figure 3.2.3.1-7 Information Alert Message

PN PREPARATION

MyKid: [Redacted] Age: 2 Years 7 Months 3 Days Gender: Male MRN: HPSF0000805

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

Upload Photo Height: 170 cm Weight: 85 kg BMI/BSA: 29.4 / 2.04 m² Update (Last Updated: 18/04/2014) Nationality: Warganegara

Lab Results Counseling History Demographic Pharmacist Notes Medication Profile Other Appointment

Encounter No: 0004 Admission Date: 18/04/2014 Attending Practitioner: Pn. Akmal Rashid Visit Location: WAD 3 (ORTO - L) Room No/Bed No:

PHARMACY ORDER

Order Type: PN Order By: [Redacted]

Ward: WAD 3 (ORTO - L) Bed No: [Redacted]

Supervised by: [Redacted] Prepared Date/Time: 18/04/2014 05:11 PM

PRESCRIPTION 8

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compunded Adult	1000 ml	1 Bag	Details	1 Bag	1 Bag	Details	Remarks	0 Bag	VERIFIED

Figure 3.2.3.1-8 PN Preparation

STEP 8

Click on the  button to print worksheet as per Figure 3.2.3.1-9

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.



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 3.2.3.1-9 Sample of Worksheet



PN PREPARATION

Prescription

MyKid: [Redacted] Age: 2 Years 7 Months 3 Days Gender: Male MRN: HPSF0000805

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

Height: 170 cm Weight: 85 kg BMI/BSA: 29.4 / 2.04 m² Update (Last Updated: 18/04/2014) Nationality: Warganegara

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment

Encounter No: 0004 Admission Date: 18/04/2014 Attending Practitioner: [Redacted] Visit Location: WAD 3 (ORTO - L) Room No/Bed No:

PHARMACY ORDER

Order Type: PN Order By: [Redacted]

Ward: WAD 3 (ORTO - L) Bed No: [Redacted]

Supervised by: [Redacted] Prepared Date/Time: 18/04/2014 05:11 PM

PRESCRIPTION PROCEED TO NEXT STAGE Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Adult	1000 ml	1 Bag	Details	1 Bag	1 Bag	Details	Remarks	0 Bag	VERIFIED

Figure 3.2.3.1-10 PN Preparation

Note

Edit Label

- Click on the button to edit label and PN Edit Label window will display as per Figure 3.2.3.1-11.
- Select the Select for print 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 3.2.3.1-12.
- The button to close PN Edit Label window.

PN EDIT LABEL

Select for print

Drug Name: Smof Kabiven Peripheral 800kcal, 1.2L

Total Volume: 1206 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 3.2.3.1-11 PN Edit Label

HOSPITAL TANAH MERAH		
Smof Kabiven Peripheral 800kcal, 1.2L		
NAME : _____		
AGE : 43 Years 11 Months 03 Days		
MRN : htmh00079978	WARD/BED NO: ICU (UNIT RAWATAN RAPI)	
Total _____ 1208 ml/bag		
Content	/ kg	/ bag
Protein (g)	0.51	38
Dextrose (g)	1.13	85
Lipid (g)	0.45	34
Sodium (mmol)	0.4	30
Potassium (mmol)	0.31	23
Calcium (mmol)	0.03	1.9
Magnesium (mmol)	0.05	3.8
Phosphate (mmol)	0.13	9.9
Chloride (mmol)	0.36	27
Acetate (mmol)	1.05	79
Trace (ml)	0	0
Vitamins (ml)	0	0
Calories (kcal)	10.67	800
Osmolarity (mOsm/l)	11.33	850
Date and Time of Administration :		
Infusion Rate	50.25 mL/Hrs	
Batch No 10KF6782	Expiry Date 18/06/2017 12:22 PM	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 : PERIPHERAL LINE		

Figure 3.2.3.1-12 Sample of PN Label

PN PREPARATION Prescription X

MyKid: [Redacted] Age: 2 Years 7 Months 3 Days Gender: Male MRN: HPSF00000805

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

Height: 170 cm Weight: 85 kg BMI/BSA: 29.4 / 2.04 m² Update (Last Updated: 18/04/2014) Nationality: Warganegara

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment

Encounter No: 0004 Admission Date: 18/04/2014 Attending Practitioner: [Redacted] Location: WAD 3 (ORTO - L) Room No/Bed No:

PHARMACY ORDER

Order Type: PN Order By: [Redacted]
Ward: WAD 3 (ORTO - L) Bed No: [Redacted]
Supervised by: [Redacted] Prepared Date/Time: 18/04/2014 05:11 PM

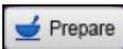
PRESCRIPTION PROCEED TO NEXT STAGE Prepare Worksheet Label Outsource

1 / 1

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compunded Adult	1000 ml	1 Bag	Details	1 Bag	1 Bag	Details	Remarks	0 Bag	VERIFIED

Figure 3.2.3.1-13 Sample of PN Label

STEP 9

Click on the  button to prepare PN order

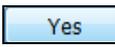
CONFIRMATION

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 3.2.3.1-14 Preparation Confirmation Alert Message

STEP 10

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

Order Details

[Details](#)

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

PN PREPARATION

Prescription X

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

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

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

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	Preparation	Unit	Remarks	Prev Disp	Status
PN Compounded Neonate	252 ml	1 bag	Details	1 bag	1 bag	1	bag	Remarks	0 bag	VERIFIED

Figure 3.2.3.2-1 PN Preparation

STEP 1

Prepare Worksheet

[Details](#)

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

PN ORDER DETAILS

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

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

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

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

Figure 3.2.3.2-2 PN Order Details

PREPARE WORKSHEET

Intervention Auto Allocation

DETAIL

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

Macronutrient

Glucose g Vitamin Solution ml Trace elements ml

Lipid g Water soluble ml Acetate mmol

Protein g Fat soluble ml Overage volume ml

Electrolytes

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

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

Lipid Syringe

Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Lipid (g)	
Vitamin A, D, E, K (Vitalipid N Infant) 10ml li	1.25	1 amp	0	1.12	0.38	0.12	Fat Soluble Vitamin
Vitamin B and C (Soluvit N) 10 ml Inj	1.25	1 vial	0	2.25	0.61	0.25	Water Soluble Vitamin
Fat emulsion, SMOFlipid 20% 100ml IV Soli	10.63	1 bott	0	19.12	4.04	2.12	Lipid
Total Preparation	13.13		NA	22.5	383.09 mOsmol/l	2.5	

Calculate

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 button to calculate PN content value

Note

PN Bag (Without Lipid)

Volume (ml), Order Quantity, Calorie (kcal), Osmolrity(mOsmol), Content and Total Preparation will be calculated and displayed automatically by system. Overage bag function provided.

PN Bag (Without lipid)															
Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolrity (mOsmol)	Content									
						Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
Dextrose 50% IV soln 500ml	22.37	1 bott	0	44.75	56.44	11.19	0	0	0	0	0	0	0	0	
Amino acid 6.53% (Vaminolact) 100ml IV Soln	38.28	1 bott	0	10	19.52	0	2.5	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sodium Glycerophosphate 20ml Injection	1.25	1 amp	0	0	3.45	0	0	0	1.25	2.5	0	0	0	0	
Sodium Chloride 20% Inj	0.37	1 amp	0	0	2.52	0	0	0	0	1.25	0	0	0	1.26	
Potassium Chloride 1g/10ml Inj	1.87	1 amp	0	0	5.05	0	0	0	0	0	2.5	0	0	2.51	
Calcium Gluconate 10% Inj	5.68	1 amp	0	0	3.8	0	0	0	0	0	0	1.25	0	0	
Magnesium Sulphate 50% Inj (49.3%/5mL)	0.13	1 amp	0	0	0.52	0	0	0	0	0	0	0	0.25	0	
Trace Element - Paediatric (Peditrace) 10mL Inj	1.25	1 amp	0	0	0.05	Trace Elements									
Sterile Water for Inj 500mL	40.67	1 bott	0	0	0	Water For Injection									
Total Preparation	111.87			54.75	816.57 mOsmol/l	11.19	2.5	0	1.25	3.75	2.5	1.25	0.25	3.77	

Calculate

NPC:N Ratio	67 : 1
TOTAL content of Calcium and Phosphate	Calcium + Phosphate= 2.23 mmol/100ml
TOTAL content of Magnesium and Calcium	Calcium + Magnesium= 1.34 mmol/100ml

Figure 3.2.3.2-4 Prepare Worksheet

STEP 5

Select the item from the drop down box

STEP 6

Click on the **Calculate** button to calculate PN content value

PREPARE WORKSHEET														
DETAIL														
TPN volume	2820 ml	Energy required	1650 kcal	Product category	3 in 1 2 in 1									
Macronutrient		Vitamin		Trace elements										
Glucose	198 g	Vitamin Solution	ml	Acetate	0 mmol									
Lipid	66 g	Water soluble	ml	L-Glutamin	ml									
Protein	66 g	Fat soluble	ml	Phosphate (PO4)2-	0 mmol									
Electrolytes		Calcium, Ca2+	0 mmol											
Sodium (Natrium), Na+	66 mmol	Magnesium, Mg+	0 mmol											
Potassium (Kalium), K+	0 mmol													

Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolrity (mOsmol)	Content									
						Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
	0		0	0	0	66	0	0	0	0	0	0	0	0	
Dextrose 50% IV soln 500ml	0		0	0	0	0	198	0	0	0	0	0	0	0	
Amino acid 6.53% (Vaminolact) 100ml IV Soln	0		0	0	0	0	0	66	0	0	0	0	0	0	
	0		0	0	0	0	0	0	0	0	0	0	0	0	
Potassium Dihydrogen Phosphate Injection	0		0	0	0	0	0	0	0	0	0	0	0	0	
Sodium Chloride 20% Inj	0		0	0	0	0	0	0	0	0	66	0	0	0	
Potassium Chloride 1g/10ml Injection	0		0	0	0	0	0	0	0	0	0	0	0	0	
Calcium Gluconate 10% Injection	0		0	0	0	0	0	0	0	0	0	0	0	0	
Magnesium Sulphate 50% Injection (49.3%/5mL)	0		0	0	0	0	0	0	0	0	0	0	0	0	
Trace Element - Paediatric (Peditrace) 10mL Inj	0		0	0	0	Trace Elements									

Figure 3.2.3.2-5 Prepare Worksheet

STEP 7

Click on button to save record

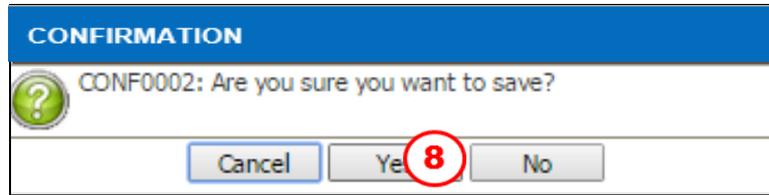


Figure 3.2.3.2-6 Confirmation Alert Message

STEP 8

Click on the button to confirm save record

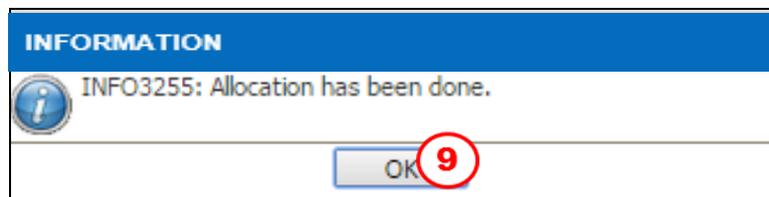


Figure 3.2.3.2-7 Information Alert Message

STEP 9

Click on the button and the system will allocate automatically as per Figure 3.2.3.2-7

Lipid Syringe

Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Lipid (g)	
Vitamin A, D, E, K (Vitalipid N Infant) 10ml Ii	1.25	1 amp	1 amp	1.12	0.38	0.12	Fat Soluble Vitamin
Vitamin B and C (Soluivit N) 10 ml Inj	1.25	1 vial	1 vial	2.25	0.61	0.25	Water Soluble Vitamin
Fat emulsion, SMOFlipid 20% 100ml IV Soln	10.63	1 bott	1 bott	19.12	4.04	2.12	Lipid
Total Preparation	13.13		NA	22.5	383.09 mOsmol/l	2.5	

Calculate

PN Bag (Without lipid)

Item selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content									
						Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)	
Dextrose 50% IV soln 500ml	22.37	1 bott	1 bott	44.75	56.44	11.19	0	0	0	0	0	0	0	0	0
Amino acid 6.53% (Vaminolact) 100ml IV Soln	38.28	1 bott	1 bott	10	19.52	0	2.5	0	0	0	0	0	0	0	0
	0		0	0	0	0	0	0	0	0	0	0	0	0	0
Sodium Glycerophosphate 20ml Injection	1.25	1 amp	1 amp	0	3.45	0	0	0	1.25	2.5	0	0	0	0	0
Sodium Chloride 20% Inj	0.37	1 amp	1 amp	0	2.52	0	0	0	0	1.25	0	0	0	0	1.26
Potassium Chloride 1g/10ml Inj	1.87	1 amp	1 amp	0	5.05	0	0	0	0	0	2.5	0	0	0	2.51
Calcium Gluconate 10% Inj	5.68	1 amp	1 amp	0	3.8	0	0	0	0	0	0	1.25	0	0	0
Magnesium Sulphate 50% Inj (49.3%/5mL)	0.13	1 amp	1 amp	0	0.52	0	0	0	0	0	0	0	0.25	0	0
Trace Element - Paediatric (Peditrace) 10mL Inj	1.25	1 amp	1 amp	0	0.05	Trace Elements									
Sterile Water for Inj 500mL	40.67	1 bott	1 bott	0	0	Water For Injection									
Total Preparation	111.87			54.75	816.57 mOsmol/l	11.19	2.5	0	1.25	3.75	2.5	1.25	0.25	3.77	

Calculate

Figure 3.2.3.2-8 Prepare Worksheet



PN PREPARATION

Prescription X

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

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

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

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

Lab Results Counselling History Demographic Pharmacist Notes Medication Profile Other Appointment

PHARMACY ORDER

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

PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label Outsource

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

Figure 3.2.3.2-9 PN Preparation

STEP 9

Click on the  button to print the worksheet as per Figure 3.2.3.2-9



NEONATE PARENTERAL NUTRITION WORKSHEET
MINISTRY OF HEALTH
Hospital Full Based

Patient Name : BABY 2016
MRN : HPSF00097491
Ward/Bed No : WAD 7 (MED - L)
Age : 04 Months 10 Days
Gender : Female
Body Weight : 1.25 kg

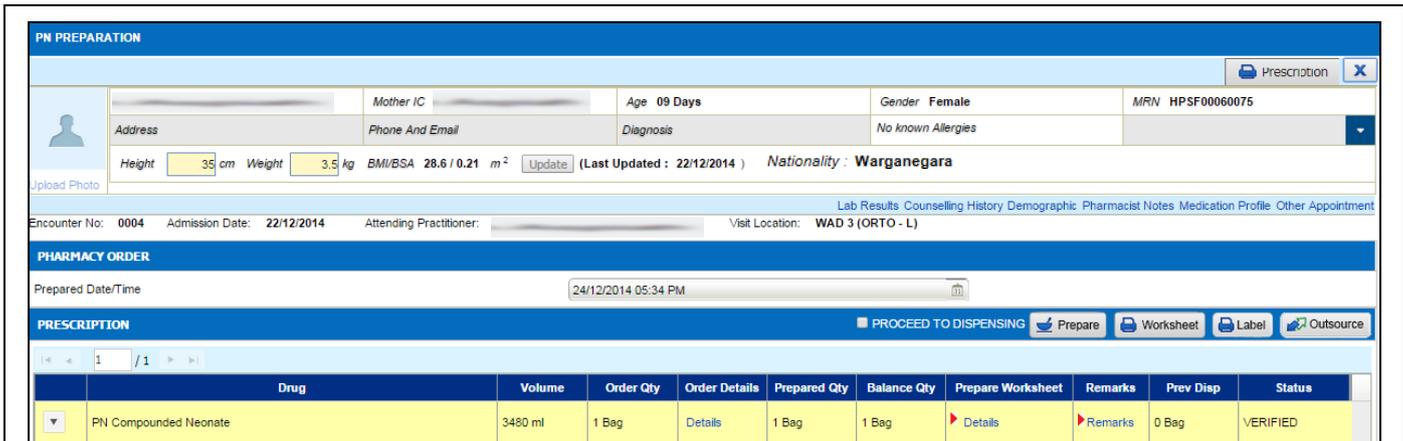
Worksheet : P334-290916
Prepared Date/Time : 13/10/2016 03:21 PM
Prescription # : 70000191333

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Amino acid 6.53% (Vaminolact) 100ml IV Soln	38.28	1 bottle	BG654	2.5 g
Dextrose 50% IV soln 500ml	22.37	1 bottle	P1252129	11.19 g
Sterile Water for Inj 500mL	40.67	1 bottle	DMHPSF14	NA
Sodium Chloride 20% Inj	0.37	1 ampoule	hpsf1	3.75 mmol
Sodium Glycerophosphate 20ml Injection	1.25	1 ampoule	MBH67	1.25 mmol
Magnesium Sulphate 50% Inj (49.3%/5mL)	0.13	1 ampoule	335074	0.25 mmol
Potassium Chloride 1g/10ml Inj	1.87	1 ampoule	14014	2.5 mmol
Calcium Gluconate 10% Inj	5.68	1 ampoule	502065	1.25 mmol
Trace Element - Paediatric (Peditrace) 10mL Inj	1.25	1 ampoule	12G1L01	1.25 ml
Total Volume	111.87	1 Bag		

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Fat emulsion, SMOFlipid 20% 100ml IV Soln	10.63	1 bottle	SE444	2.13 g
Vitamin A, D, E, K (Vitalipid N Infant) 10ml Inj	1.25	1 ampoule	AS32	1.25 ml
Vitamin B and C (Soluvit N) 10 ml Inj	1.25	1 vial	80HD522	1.25 ml
Total Volume	13.13	1 Syringe		

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

Figure 3.2.3.2-10 Sample of Worksheet



PN PREPARATION

Prescription [X]

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

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

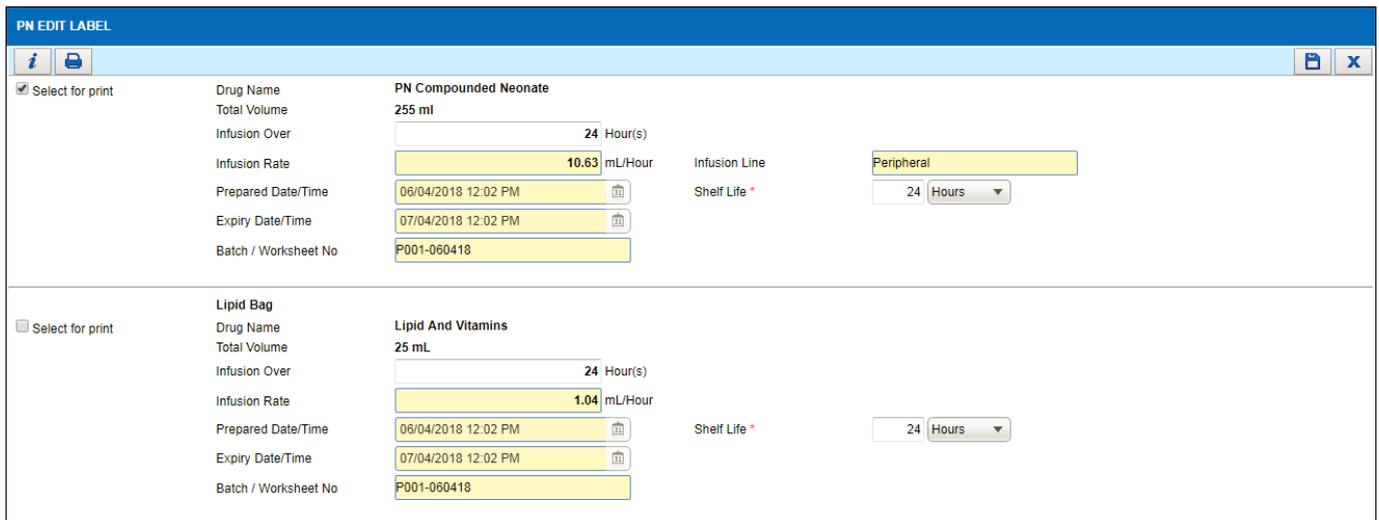
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Neonate	3480 ml	1 Bag	Details	1 Bag	1 Bag	Details	Remarks	0 Bag	VERIFIED

Figure 3.2.3.2-11 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 Neonate
 Total Volume: 255 ml
 Infusion Over: 24 Hour(s)
 Infusion Rate: 10.63 mL/Hour
 Prepared Date/Time: 06/04/2018 12:02 PM
 Expiry Date/Time: 07/04/2018 12:02 PM
 Batch / Worksheet No: P001-060418

Infusion Line: Peripheral
 Shelf Life: 24 Hours

Select for print

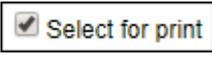
Lipid Bag
 Drug Name: Lipid And Vitamins
 Total Volume: 25 mL
 Infusion Over: 24 Hour(s)
 Infusion Rate: 1.04 mL/Hour
 Prepared Date/Time: 06/04/2018 12:02 PM
 Expiry Date/Time: 07/04/2018 12:02 PM
 Batch / Worksheet No: P001-060418

Shelf Life: 24 Hours

Figure 3.2.3.2-12 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 TANAH MERAH		
PARENTERAL NUTRITION (Neonate)		
NAME : B/O ATIKAH		
AGE : 01 Days		
MRN :	WARD/BED NO :	
HKLM00100530	Ward 1-Paediatric	
Total _____ 255 ml/bag		
Content	/ kg	/ bag
Protein (g)	2.14	6
Dextrose (g)	4.29	12
Sodium (mmol)	2.14	6
Potassium (mmol)	2.14	6
Calcium (mmol)	0.86	2.4
Magnesium (mmol)	0.14	0.4
Phosphate (mmol)	1.07	3
Chloride (mmol)	3.21	9
Acetate (mmol)	0	0
Trace (ml)	0	0
Vitamins (ml)	3.57	10
Calories (kcal)	25.71	72
Osmolarity (mOsm/l)	201.44	564.04
Date and Time of Administration :		
Infusion Rate	10.63 ml/hrs	
Worksheet ID	Expiry Date	Price : RM
P001-060418	07/04/2018 12:02 PM	
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 : PERIPHERAL LINE		

Figure 3.2.3.2-13 Sample PN Label

PN EDIT LABEL



Select for print

Drug Name	PN Compounded Neonate		
Total Volume	255 ml		
Infusion Over	<input type="text" value="24"/>	Hour(s)	
Infusion Rate	<input type="text" value="10.63"/>	mL/Hour	Infusion Line <input type="text" value="Peripheral"/>
Prepared Date/Time	<input type="text" value="06/04/2018 12:02 PM"/>		Shelf Life * <input type="text" value="24"/> <input type="text" value="Hours"/>
Expiry Date/Time	<input type="text" value="07/04/2018 12:02 PM"/>		
Batch / Worksheet No	<input type="text" value="P001-060418"/>		

Select for print

Lipid Bag	Lipid And Vitamins		
Drug Name	25 mL		
Total Volume	25 mL		
Infusion Over	<input type="text" value="24"/>	Hour(s)	
Infusion Rate	<input type="text" value="1.04"/>	mL/Hour	Shelf Life * <input type="text" value="24"/> <input type="text" value="Hours"/>
Prepared Date/Time	<input type="text" value="06/04/2018 12:02 PM"/>		
Expiry Date/Time	<input type="text" value="07/04/2018 12:02 PM"/>		
Batch / Worksheet No	<input type="text" value="P001-060418"/>		

Figure 3.2.3.2-14 PN Edit Label

Note

Lipid Bag

- Select the **Select for print** 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.
- The  button to close PN Edit Label window.
- The  button to cancel print label.

HOSPITAL TANAH MERAH			
NAME	B/O ATIKAH		
MRN	HKLM00190530		
WARD/ BED NO	Ward 1-Paediatric		
LIPID	15 mL	Infusion rate	1.04 ml/hr
VITALIPID	10 mL	Worksheet ID	P001-060418
SOLUVIT	0 mL	Exp date	07/04/2018 12:02 PM
Total Vol	25 mL	Date Prepared	06/04/2018 12:02 PM
Calories	36 koal	Price(RM)	
(Keep refrigerated)			

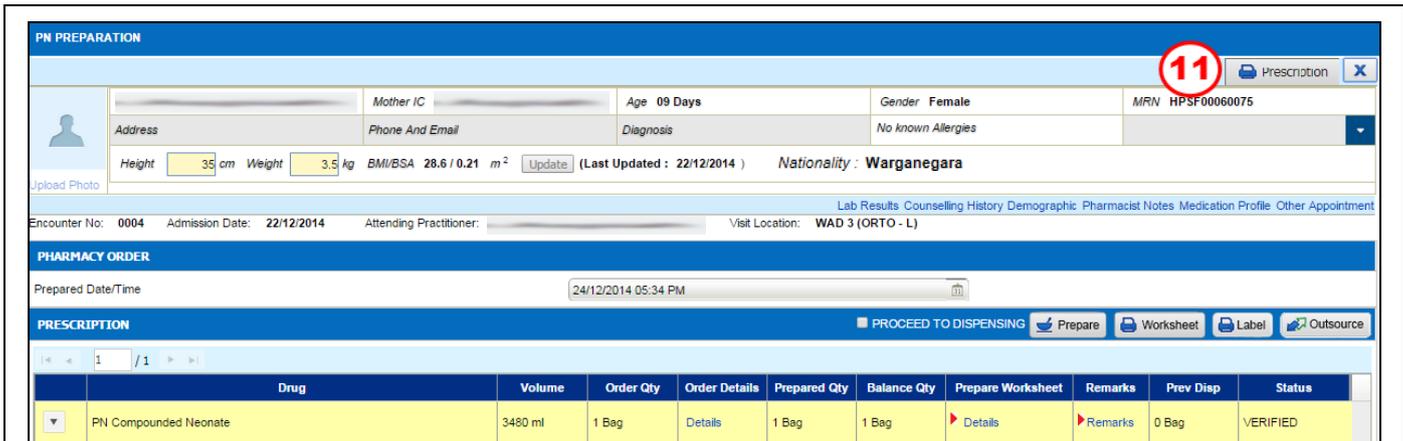
HOSPITAL TANAH MERAH			
NAME	B/O ATIKAH		
MRN	HKLM00190530		
WARD	Ward 1-Paediatric		
LIPID	15 mL	Infusion rate	1.04 ml/hr
VITALIPID	10 mL	Worksheet ID	P001-060418
SOLUVIT	0 mL	Exp date	07/04/2018 12:02 PM
Total Vol	25 mL	Date Prepared	06/04/2018 12:02 PM
Calories	36 koal	Price(RM)	
(Keep refrigerated)			

HOSPITAL TANAH MERAH			
NAME	B/O ATIKAH		
MRN	HKLM00190530		
WARD	Ward 1-Paediatric		
LIPID	15 mL	Infusion rate	1.04 ml/hr
VITALIPID	10 mL	Worksheet ID	P001-060418
SOLUVIT	0 mL	Exp date	07/04/2018 12:02 PM
Total Vol	25 mL	Date Prepared	06/04/2018 12:02 PM
Calories	36 koal	Price(RM)	
(Keep refrigerated)			

Figure 3.2.3.2-15 Sample of PN Label

Note

It will print 3 set of label in one page.



PN PREPARATION

11 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 Update (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

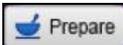
Prepared Date/Time: 24/12/2014 05:34 PM

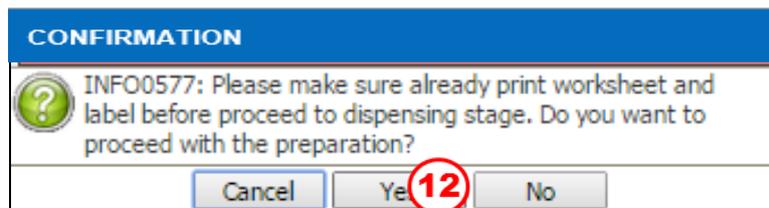
PROCEED TO DISPENSING Prepare Worksheet Label Outsource

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

Figure 3.2.3.2-16 PN Preparation

STEP 11

Click on the  button to prepare PN order



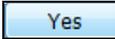
CONFIRMATION

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

Cancel Yes 12 No

Figure 3.2.3.2-17 Preparation Confirmation Alert Message

STEP 12

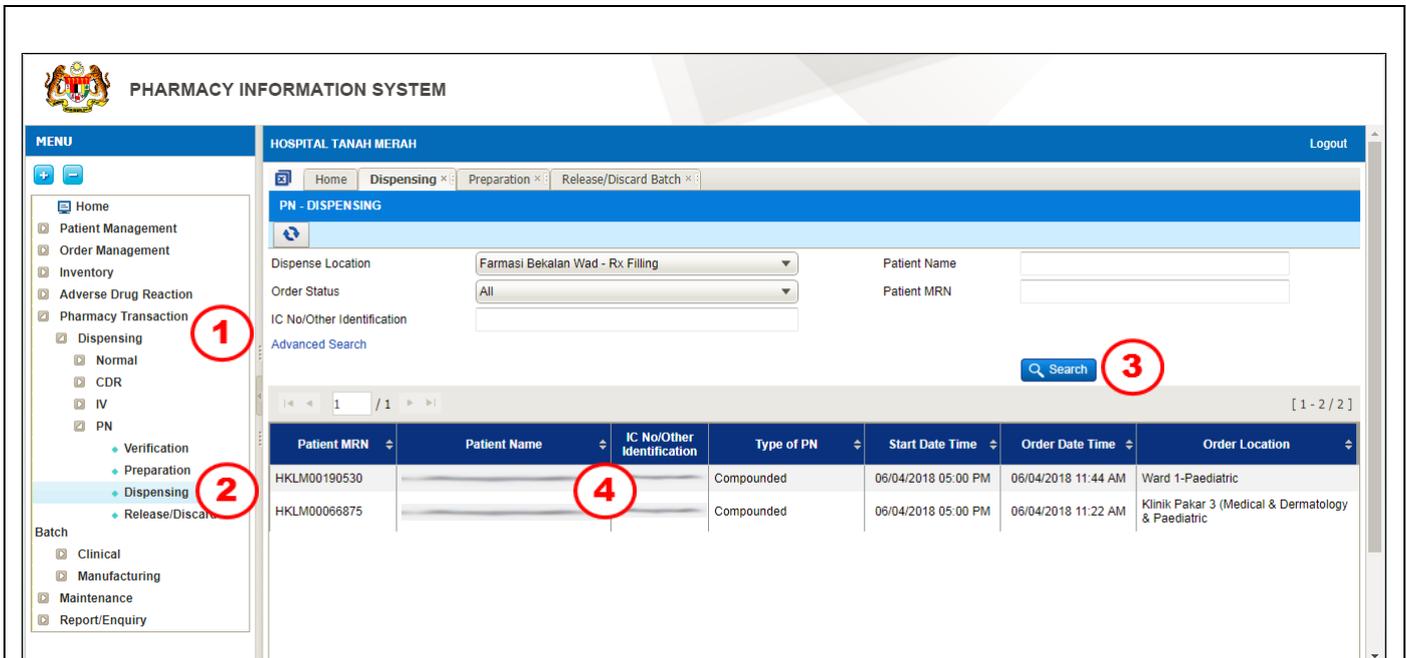
Click on the  button to confirm prepare order

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

Home | Dispensing | Preparation | Release/Discard Batch

PN - DISPENSING

Dispense Location: Farmasi Bekalan Wad - Rx Filling | Patient Name: | Patient MRN: | Order Status: All | IC No/Other Identification: | Advanced Search | Search

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

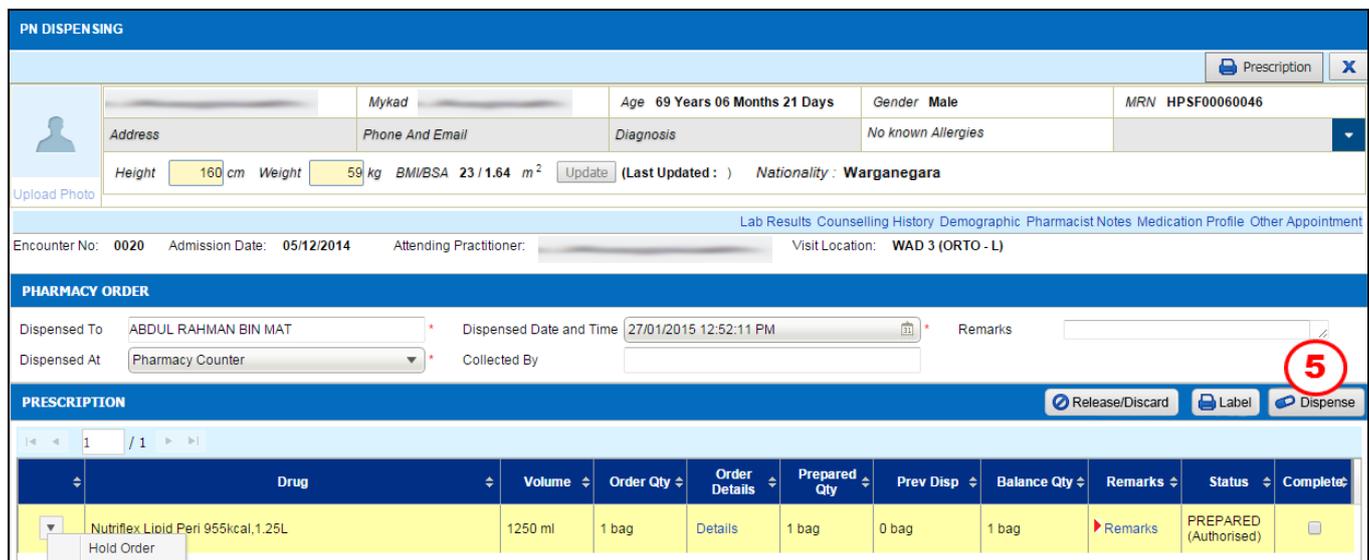
Double click on record and PN Dispensing screen will be displayed as Figure 3.3-2

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' interface. At the top, there are navigation buttons for 'Prescription' and a close button. Below this, patient information is shown, including Mykad, Age (69 Years 06 Months 21 Days), Gender (Male), and MRN (HPSF00060046). There are also 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 patient info, there are tabs 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 'Dispensed At' as Pharmacy Counter. A red circle with the number '5' highlights the 'Dispensed At' dropdown menu.

The 'PRESCRIPTION' section has buttons for 'Release/Discard', 'Label', and 'Dispense'. Below this is a table with columns: Drug, Volume, Order Qty, Order Details, Prepared Qty, Prev Disp, Balance Qty, Remarks, Status, and Complete. The first row shows 'Nutriflex Lipid Peri 955kcal, 1.25L' with a volume of 1250 ml, order quantity of 1 bag, and status of 'PREPARED (Authorised)'. A 'Hold Order' button is visible next to the drug name.

Figure 3.3-2 PN Dispensing

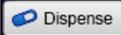
Note

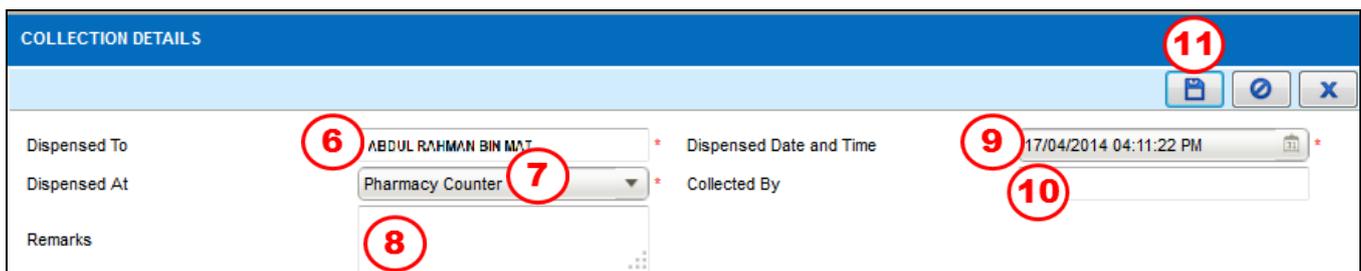
- Click on the  button to select **Hold Order** as per Figure 3.3-2.
- User only can do **Hold/Resume Order** at Dispensing screen.



- Check at  checkbox to force close order by Pharmacist.

STEP 5

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



The screenshot shows a window titled 'COLLECTION DETAILS' with a blue header bar. Below the header are three buttons: a save icon (11), a refresh icon, and a close icon (X). The form contains several fields: 'Dispensed To' (6) with the value 'ABDUL RAHMAN BIN MAT', 'Dispensed Date and Time' (9) with the value '17/04/2014 04:11:22 PM', 'Dispensed At' (7) with a dropdown menu showing 'Pharmacy Counter', 'Collected By' (10) which is empty, and 'Remarks' (8) which is empty. Red circles with numbers 6 through 11 highlight these specific elements.

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

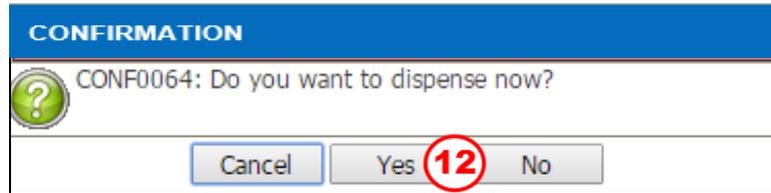


Figure 3.3-4 Confirmation Alert Message

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.

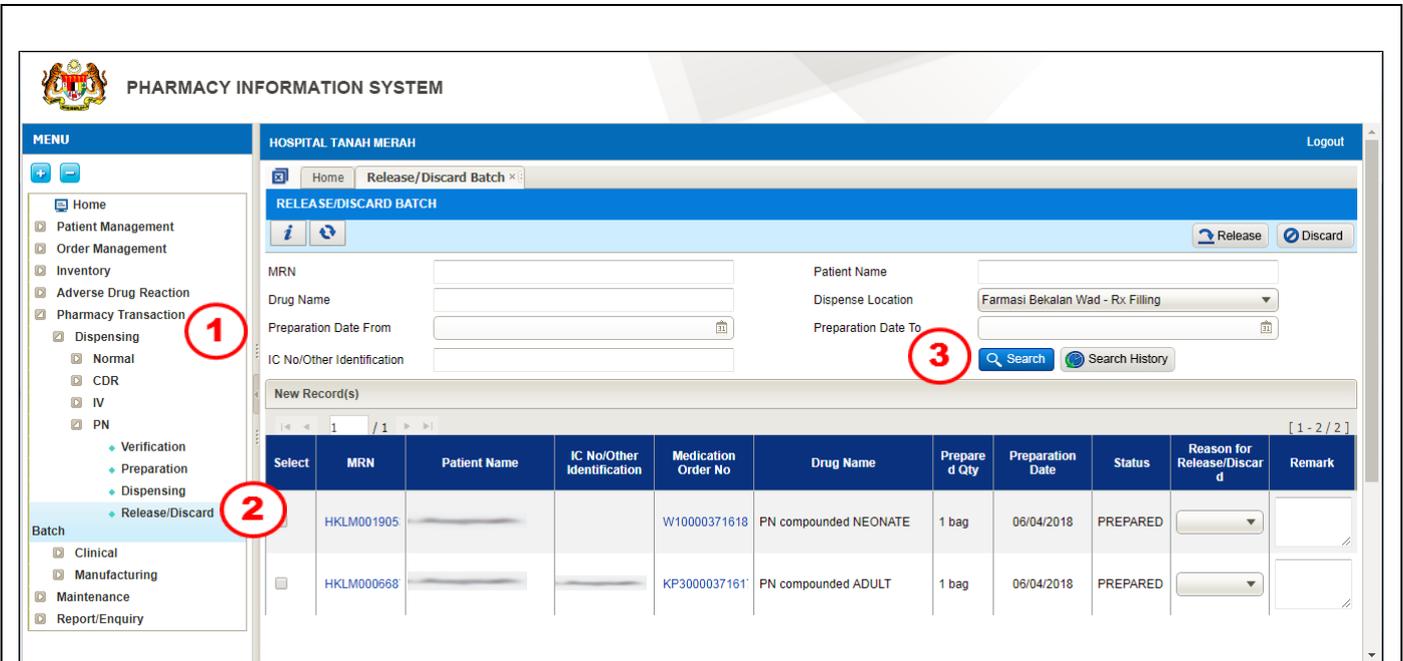


Figure 3.4-1 Release/Discard Batch Listing Page

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

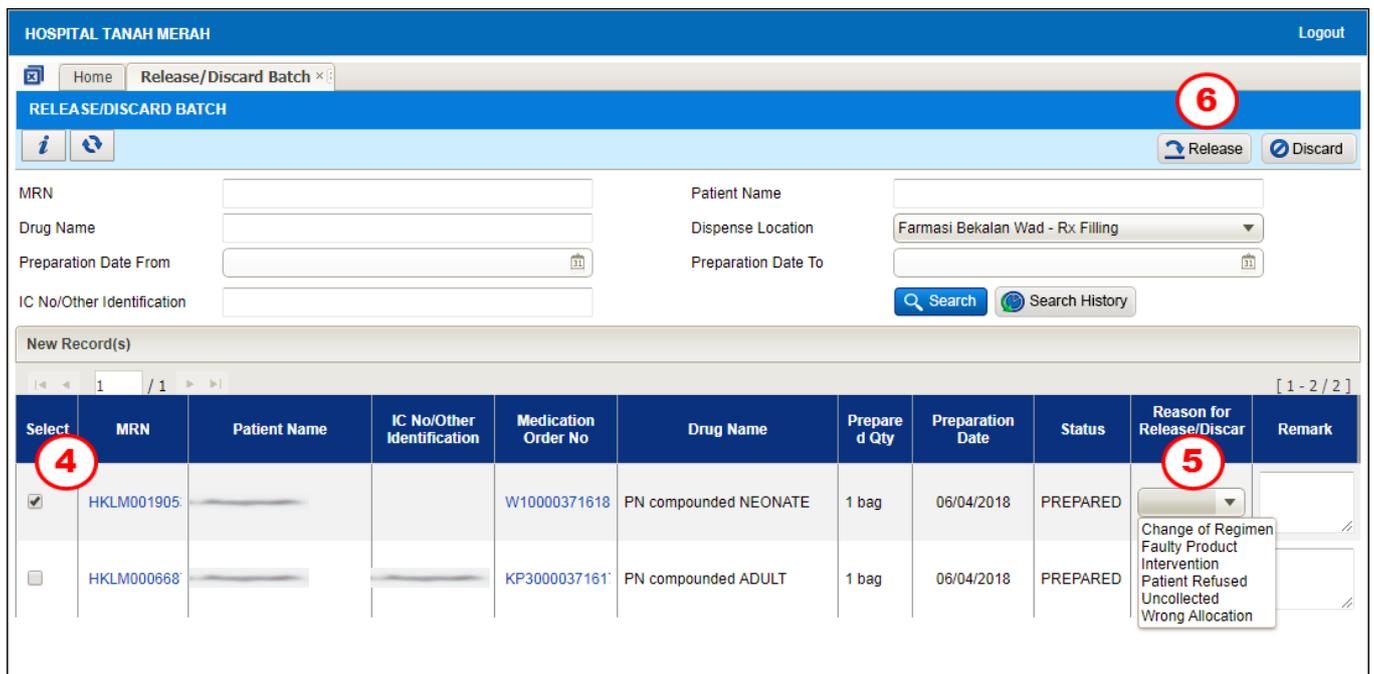
STEP 3

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 Logout

Home Release/Discard Batch ×

RELEASE/DISCARD BATCH 6

Release Discard

MRN Patient Name

Drug Name Dispense Location

Preparation Date From Preparation Date To

IC No/Other Identification

New Record(s)

1 / 1 [1 - 2 / 2]

Select	MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
<input checked="" type="checkbox"/> 4	HKLM001905			W10000371618	PN compounded NEONATE	1 bag	06/04/2018	PREPARED	5	
<input type="checkbox"/>	HKLM000668			KP3000037161	PN compounded ADULT	1 bag	06/04/2018	PREPARED		

Reason for Release/Discard options:
 Change of Regimen
 Faulty Product
 Intervention
 Patient Refused
 Uncollected
 Wrong Allocation

Figure 3.4-2 Release/Discard Batch

STEP 4

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

STEP 5

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

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

STEP 6

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

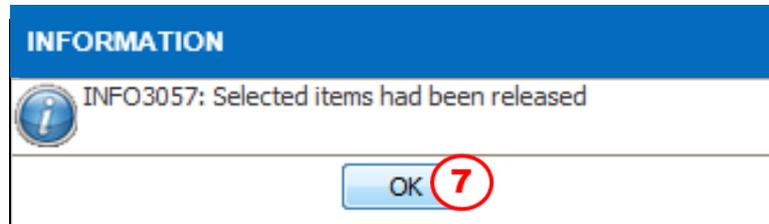
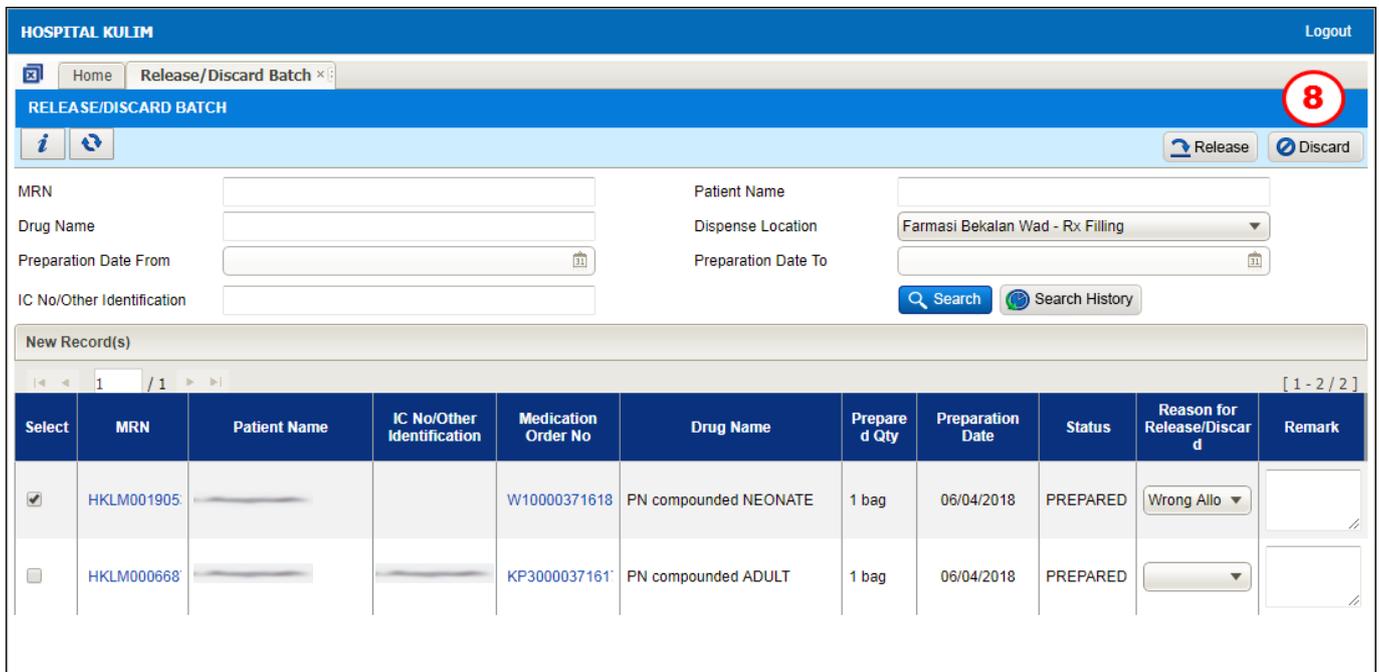


Figure 3.4-3 Information Alert Message

STEP 7

Click on the  button to release order batch



HOSPITAL KULIM Logout

Home Release/Discard Batch ×

RELEASE/DISCARD BATCH **8**

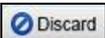
MRN Patient Name
Drug Name Dispense Location
Preparation Date From Preparation Date To
IC No/Other Identification

New Record(s)

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

Figure 3.4-4 Release / Discard Batch

STEP 8

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

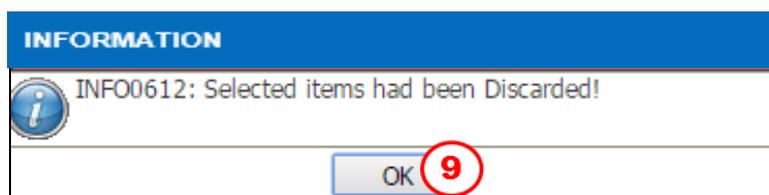


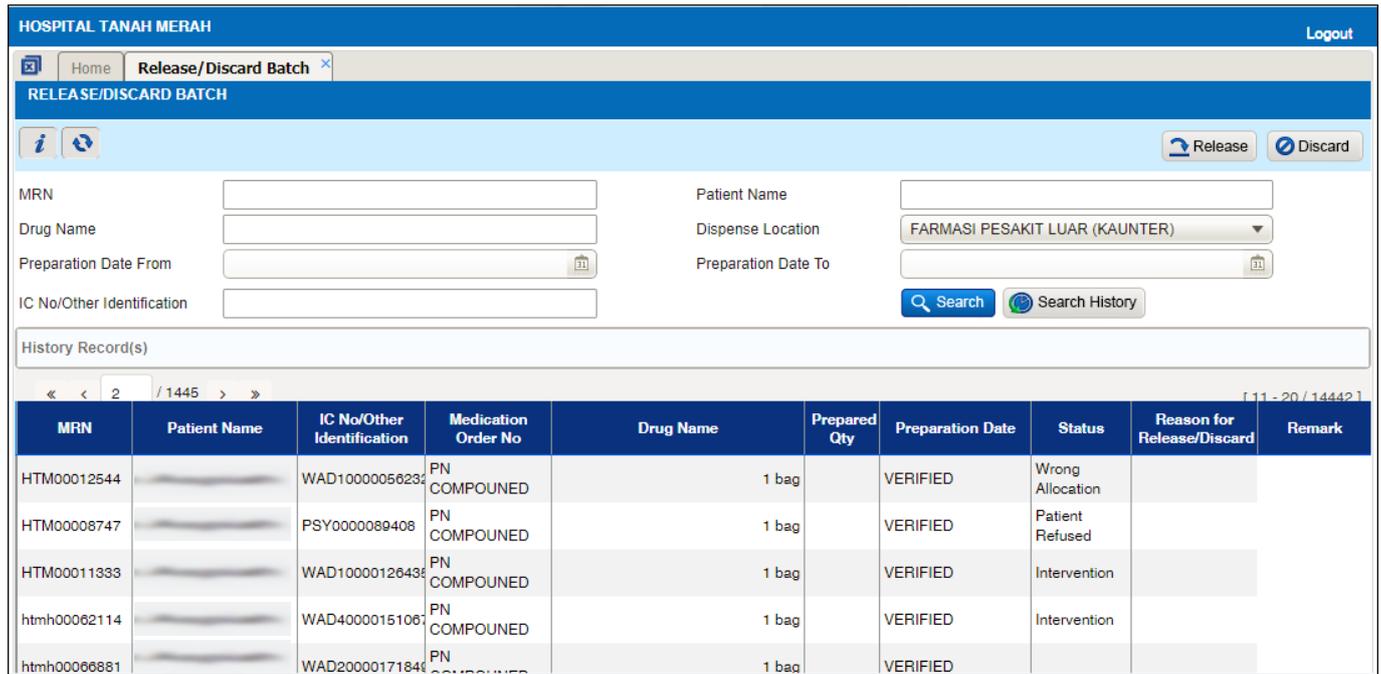
Figure 3.4-5 Information Alert Message

STEP 9

Click on the  button to discard batch

Note

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



HOSPITAL TANAH MERAH Logout

Home **Release/Discard Batch**

RELEASE/DISCARD BATCH

MRN Patient Name

Drug Name Dispense Location **FARMASI PESAKIT LUAR (KAUNTER)**

Preparation Date From Preparation Date To

IC No/Other Identification  

History Record(s)

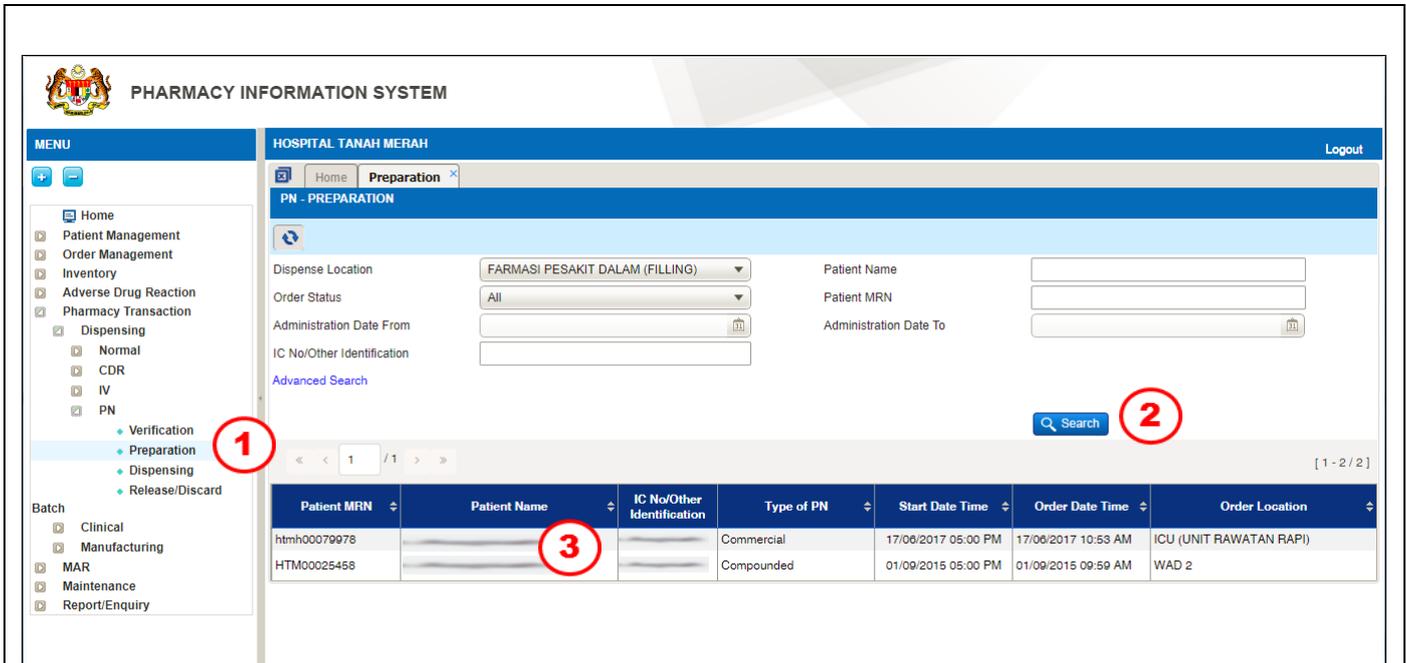
« < 2 / 1445 > » [11 - 20 / 14442]

MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
HTM00012544		WAD1000005623	PN COMPOUNDED	1 bag		VERIFIED	Wrong Allocation		
HTM00008747		PSY0000089408	PN COMPOUNDED	1 bag		VERIFIED	Patient Refused		
HTM00011333		WAD1000012643	PN COMPOUNDED	1 bag		VERIFIED	Intervention		
htmh00062114		WAD4000015106	PN COMPOUNDED	1 bag		VERIFIED	Intervention		
htmh00066881		WAD2000017184	PN COMPOUNDED	1 bag		VERIFIED			

Figure 3.4-6 Release/Discard Batch

3.5 Outsource

Outsource allow user to send preparation request to another facility through PhIS



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

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:
 - a) Dispense Location
 - b) Patient Name
 - c) Order Status
 - d) 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

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

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

Original Prescription Serial No: 13132

PHARMACY ORDER

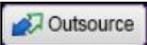
Prepared Date/Time: 06/04/2018 03:46 PM

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 X

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

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.**

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 button to send outsource request

Figure 3.5-5 Send Request Alert Message

STEP 8

Click on the button to send outsource request

Figure 3.5-6 Outsource Details

STEP 9

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



4.0 Acronyms

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

5.0 Links to Clinical Modules

No	Module	PDF Links	No	Module	PDF Links
1	<i>Inpatient</i>	Click Here	12	<i>CDR Dispensing</i>	Click Here
2	<i>CDR Order</i>	Click Here	13	<i>Methadone Dispensing</i>	Click Here
3	<i>TDM Order</i>	Click Here	14	<i>PN Dispensing</i>	Click Here
4	<i>PN Order</i>	Click Here	15	<i>Order Management</i>	Click Here
5	<i>IV Order</i>	Click Here	16	<i>Patient Management</i>	Click Here
6	<i>Prepacking</i>	Click Here	17	<i>Radiopharmaceuticals</i>	Click Here
7	<i>Galenical</i>	Click Here	18	<i>Outpatient</i>	Click Here
8	<i>MTAC</i>	Click Here	19	<i>Special Drug Request</i>	Click Here
9	<i>ADR & DAC</i>	Click Here	20	<i>MAR</i>	Click Here
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