



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

User Manual Parenteral Nutrition (PN)

Version : 10th EDITION Document ID : PB_U. MANUAL_PN
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Reference ID : PB_U. MANUAL_PN_DISPENSING-10th EDITION

Application reference: PhIS & CPS v2.1 & v2.2



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1.0 Introduction

1.1 Overview of Phis

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

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

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

1.2 Purpose and Objectives

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

User will understand the following activities in details:


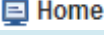









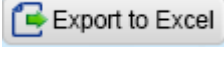
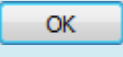

1.3 Organised Sections

These are the sections within this document:


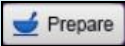


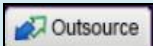
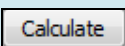


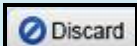
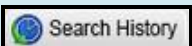


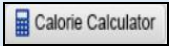
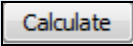

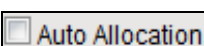
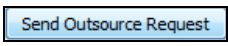
- Section 1 : Introduction
- Section 2 : Application Standard Features
- Section 3 : Parenteral Nutrition
- Section 4 : Acronyms

2.0 Application Standard Features

2.1 PhIS 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
	Confirm Button		Delete Item from the list
	Refresh Prescription		Yes Button
	OK Button		Dropdown Box
	Automatically Display/Retrieve Box		Empty Text Box

Parenteral Nutrition Module Legend

	Verification Prescription		Preparation Prescription
	Dispensing		Edit and Print Label
	Outsource Product		Calculate
	Generate Worksheet		Release Batch
	Discard Batch		Search History
	Nutritional Assessment		Cancel Button
	Calorie Calculator		Calculate
	Hold Button		Auto allocation
	Sent Outsource Request		

Note

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

3.0 Parenteral Nutrition (PN)

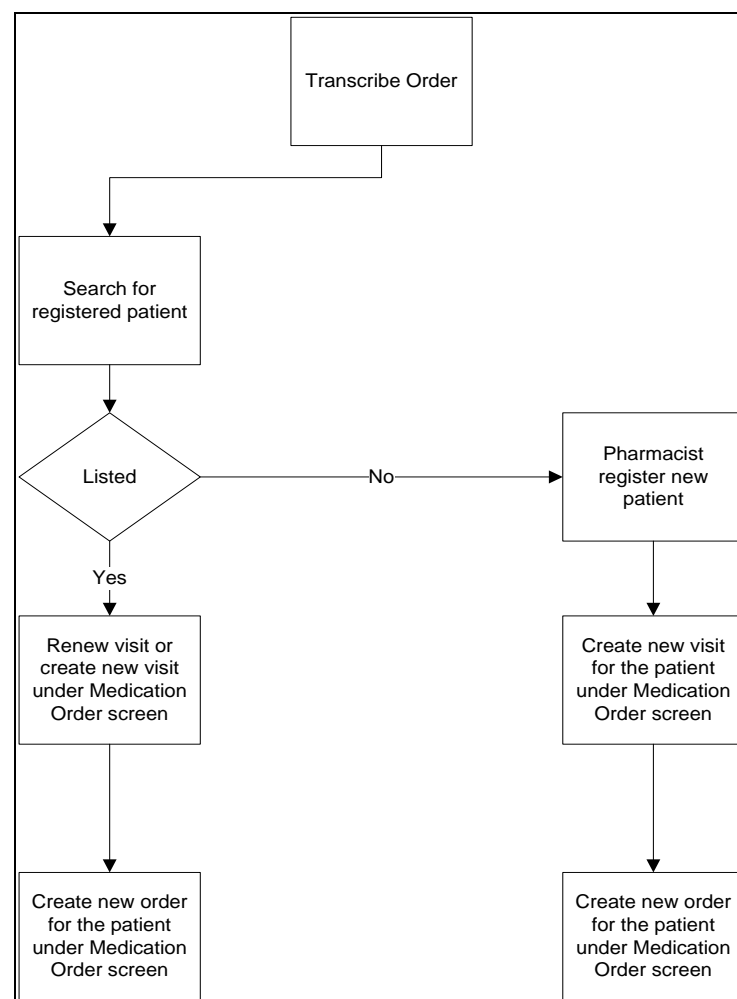
Overview

The Parenteral Nutrition (PN) 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

Transcribe Order



Transcribe Order Process Flow

Functional Diagram

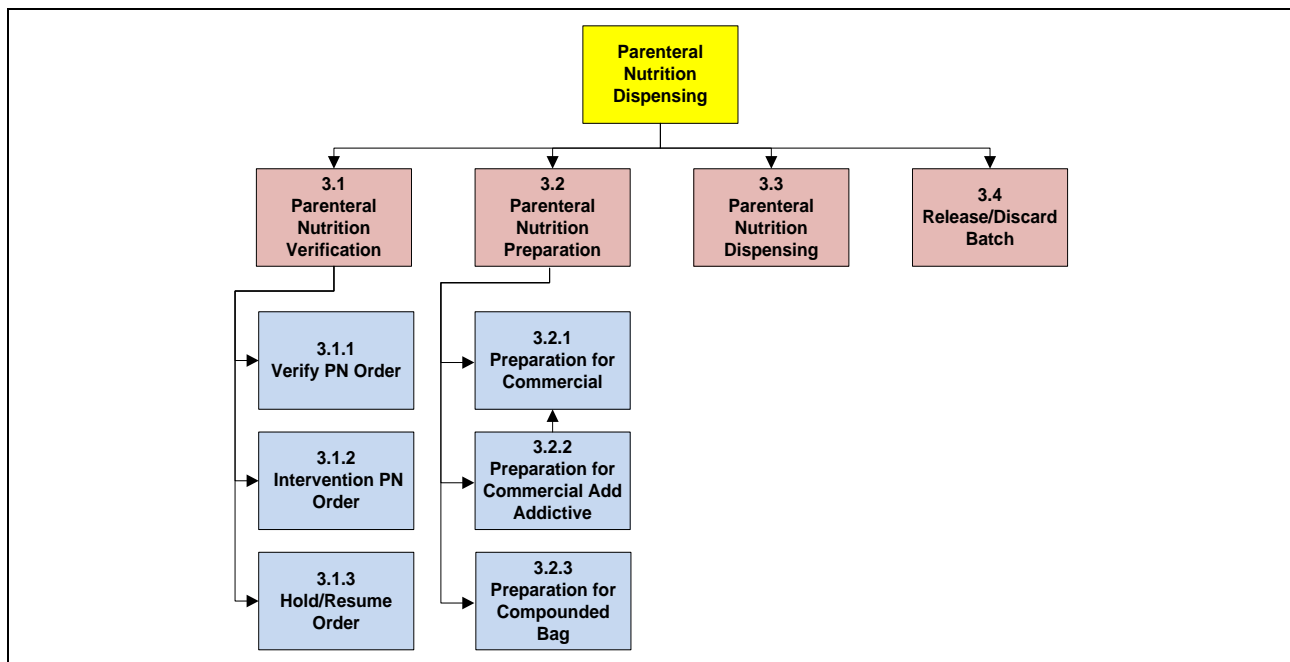


Figure 3.0-1

Functional Description

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

- **Verification**

Verification is for pharmacist to verify the prescriptions received from transcribe order. 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. Professionals access system data directly with no need to send files or manual drug labeling.

- **Dispensing**

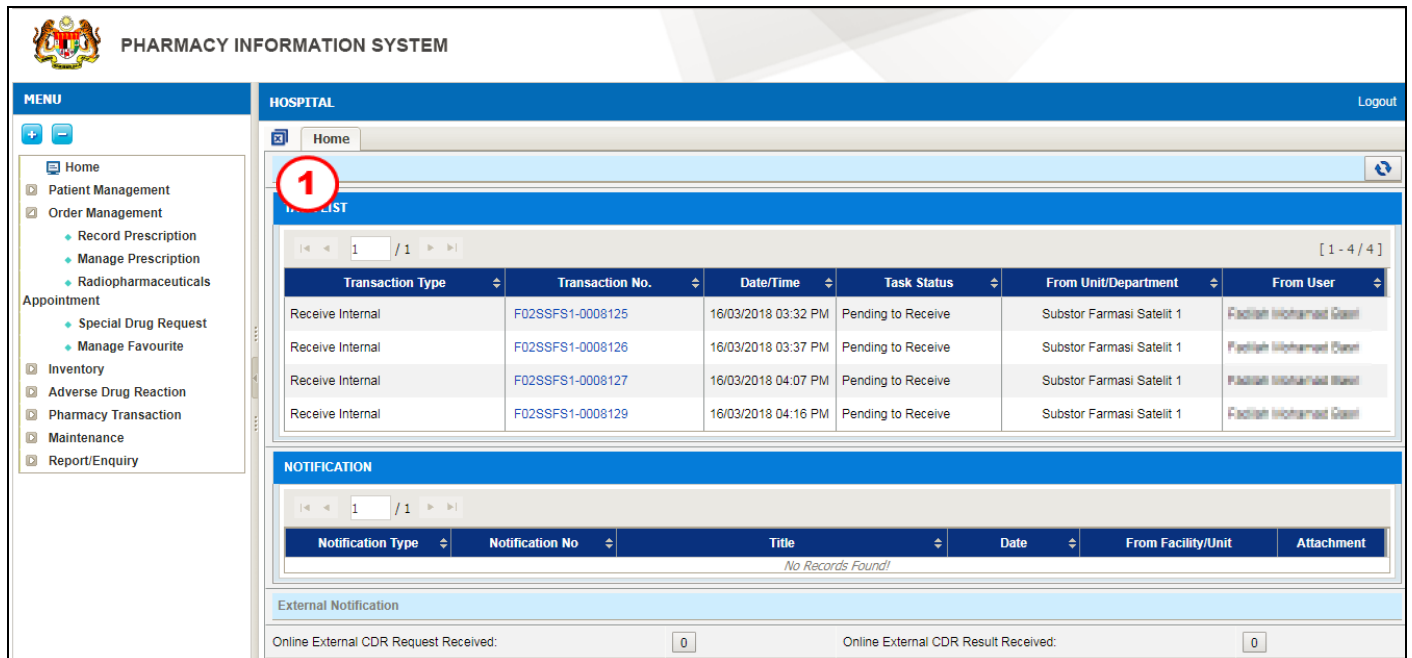
The prescription and the dispensing report are made in the system that may integrate with inventory system.

- **Release/Discard Batch**

Allow the user to release/discard the drug reserved for the patient back into inventory. User need to release this drug in order for it to be available in the drug inventory list.

3.1 Search Registered Patient

To view an existing patient record, please perform the steps below.



Transaction Type	Transaction No.	Date/Time	Task Status	From Unit/Department	From User
Receive Internal	F02SSFS1-0008125	16/03/2018 03:32 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamed Gani
Receive Internal	F02SSFS1-0008126	16/03/2018 03:37 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamed Gani
Receive Internal	F02SSFS1-0008127	16/03/2018 04:07 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamed Gani
Receive Internal	F02SSFS1-0008129	16/03/2018 04:16 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamed Gani

Figure 3.1-1 PhIS Home page

This page is used to search for a registered patient

STEP 1

Click on 'Order Management' menu followed by 'Record Prescription' and screen will be displayed as per Figure 3.1-1

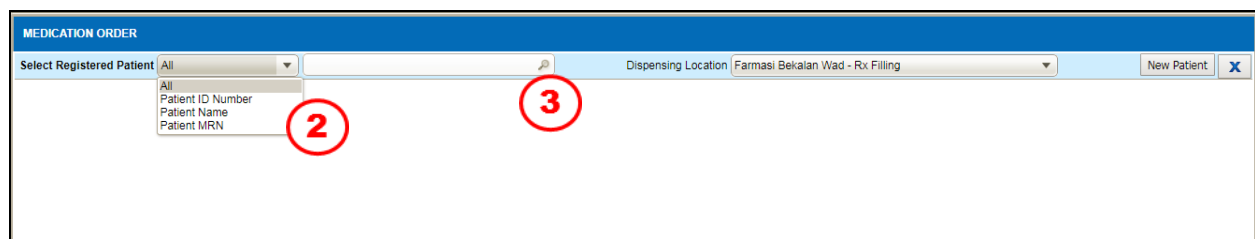


Figure 3.1-2 Medication Order

STEP 2

Select registration type from dropdown box

STEP 3

Click on the  button to search for a registered patient based on the type selected

Note

If the patient is not registered, click on the  button and the 'Patient Registration' screen will be displayed.

MEDICATION ORDER

Select Registered Patient: Patient Name [v] Dispensing Location: Farmasi TPN [v] New Patient [X]

Patient Search

5 / 13369 [41 - 50 / 13369]

MRN	ID Number	Patient Name
HKL0000041	830740	SHAMIRAH RAJENDRA
HKL0000042	365013	MUSTAFA H M DALLUOL BUSHRA
HKL0000043	Y2110002	BARAKATULHUSNAH NORDI
HKL0000044	830718400	USAH
HKL0000045	84045340	YE HIN 4
HKL0000046	A1000001	BURKHAN HANIFF
HKL0000047	8777542	THANUS PANDIT
HKL0000048	8250401	DIPAK PAU
HKL0000049	808048840	MO CHAN MUKH
HKL0000050	88001001	TANYALUC SOACTON

Figure 3.1-3 Search Patient

STEP 4

Double-click on the selected patient and the details will be displayed as per Figure 3.1-4

Note

- Click on the 'Renew Visit' hyperlink to renew a visit for the same location.
- Select the 'Visit Type' and 'Location' to create a new visit.
- Click on the **Visit Management** button to access to 'Visit Management' screen.

MEDICATION ORDER

Select Registered Patient: All [v] HKL000001 Dispensing Location: Farmasi Klinik Pakar [v] New Patient [X]

MyKad: [v] Age: 68 Years 06 Months 11 Days Gender: Male MRN: HKL000001

Address: [v] Phone And Email: [v] Diagnosis: [v] Known Allergies: [v]

Height: 180 cm Weight: 65 kg BMI/BSA: 20.1 / 1.8 m² GSPD: [v] Update (Last Updated: 19/12/2018) Nationality: Warganegara

Upload Photo

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

VISIT/ADMISSION

Encounter No: [v] Visit Type: Outpatient Location: [v] Department: [v] Clear Save Visit Management Patient Label Patient sticker

Full Paying Patient

Encounter No	Visit/Admission Date	Visit Type	Renew Visit	Visit Location	Department	Discharge Date
0002	10/10/2019	Outpatient	Renew Visit	Kaunter Farmasi Nuklear	Pharmacy	
0004	09/10/2019	Outpatient	Renew Visit	Kaunter Farmasi Nuklear	Pharmacy	
0010	09/10/2019	Outpatient	Renew Visit	Kaunter Farmasi Nuklear	Pharmacy	


PARTIAL SUPPLY

Order Date	Order Location	Visit Type	Department	Prescription No.	Original Prescription No.	Next Collection Date	Next Collection Mode	Dispense Location
No Records Found!								

Figure 3.1-4 Medication Order Screen

MEDICATION ORDER

Select Registered Patient: All | HKL000001 | Dispensing Location: Farmasi Klinik Pakar | [New Patient] X


 Address: Mykad: 123456789 | Age: 68 Years 08 Months 11 Days | Gender: Male | MRN: HKL000001
 Phone And Email: | Diagnosis: Known Allergies

Height: 180 cm | Weight: 65 kg | BMI/BSA: 20.1 / 1.8 m² | GSPD: ☐ | Update (Last Updated: 19/12/2018) | Nationality: Warganegara

Upload Photo

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

VISIT/ADMISSION

Encounter No: [0002] | Visit Type: Outpatient | Location: | Department: | Clear | Save | Visit Management | Patient Label | Patient sticker

☐ Pull Paying Patient

[1-3/32]

Encounter No	Visit/Admission Date	Visit Type	Renew Visit	Visit Location	Department	Discharge Date
0002	10/10/2019	Outpatient	Renew Visit	Kaunter Farmasi Nuklear	Pharmacy	
0004	09/10/2019	Outpatient	Renew Visit	Kaunter Farmasi Nuklear	Pharmacy	
0010	05/10/2019	Outpatient	Renew Visit	Kaunter Farmasi Nuklear	Pharmacy	

PARTIAL SUPPLY

Order Date | Order Location | Visit Type | Department | Prescription No. | Original Prescription No. | Next Collection Date | Next Collection Mode | Dispense Location

No Records Found!


Figure 3.1-5 Visit/Admission Detail

STEP 5

Double-click on the selected visit and the details will be displayed as per Figure 3.1-6

MEDICATION ORDER

Select Registered Patient: All | HKL000001 | Dispensing Location: Farmasi Klinik Pakar | [New Patient] X


 Address: Mykad: 123456789 | Age: 68 Years 08 Months 11 Days | Gender: Male | MRN: HKL000001
 Phone And Email: | Diagnosis: Known Allergies

Height: 180 cm | Weight: 65 kg | BMI/BSA: 20.1 / 1.8 m² | GSPD: ☐ | Update (Last Updated: 10/10/2019) | Nationality: Warganegara

Upload Photo

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

VISIT/ADMISSION

Encounter No: 0002 | Visit Type: Outpatient | Location: Kaunter Farmasi Nuklear | Department: Pharmacy | Clear | Visit Management | Patient Label | Patient sticker

PARTIAL SUPPLY

VISIT RECORD

Queue Series: Normal | Queue No: | Original Prescription Serial Number: | Clinic TCA: |

NORMAL ORDER - DRUG DETAILS

View Order | Draft | Confirm

Total Price: RM 0.00

Alert	Drug Name	Order Details	Order Qty	Drug Info

Patient Diagnosis | Allergy | Adverse Drug Reaction | Nutritional Assessment | Normal Order | Infusion Order | Parenteral Nutrition | Cytotoxic Drug Reconstitution | Therapeutic Drug Monitoring | Radiopharmaceuticals

Original Prescriber Name: | Drug: | Dosage: | Admin Route: | Frequency: | Duration: | Start Date / Time: 10/10/2019 10:38 AM | End Date / Time: 10/10/2019 10:38 AM | Order Quantity: | Drug Indication: | Drug Remains: | Available Qty: |

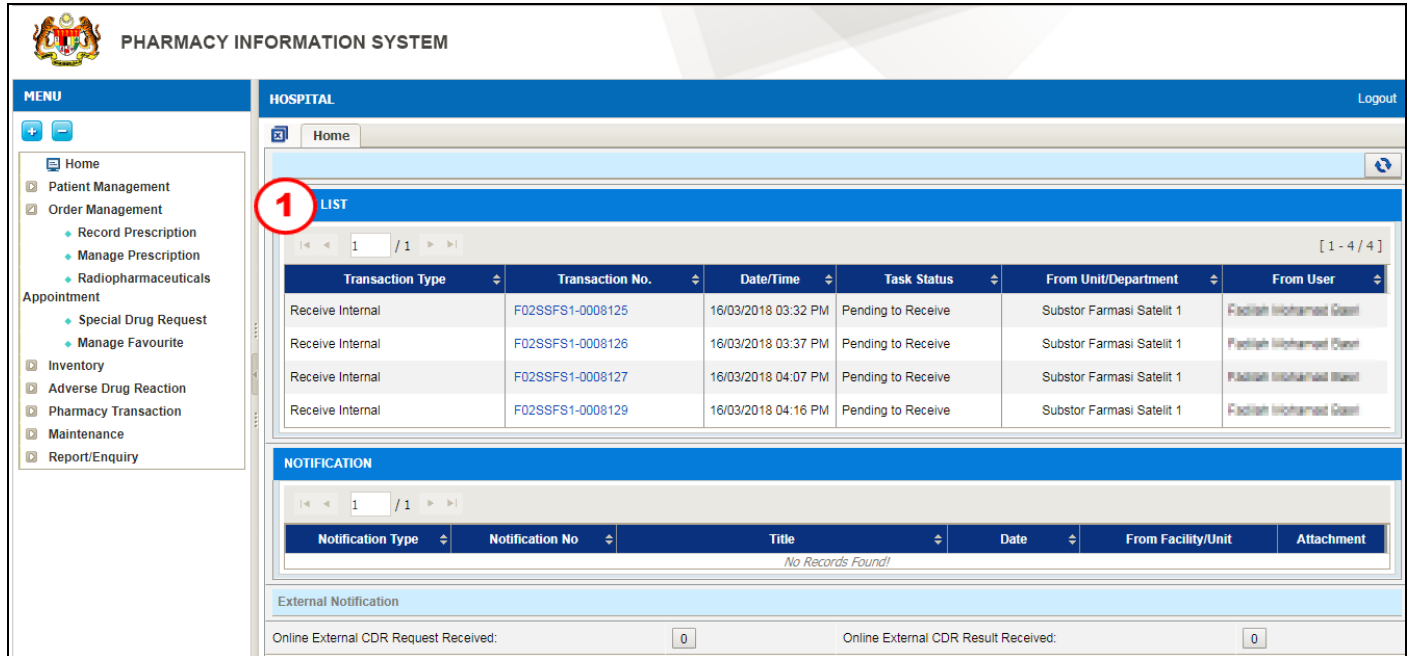
Advanced Search | ☐ Claim Medication | ☐ Ward Stock | ☐ Patient Require Counseling

+ Add | Modify | Clear

Figure 3.1-6 Medication Order Detail

3.2 New Patient Registration

This page is used to register new patient



PHARMACY INFORMATION SYSTEM

HOSPITAL Logout

Home

1 LIST

Transaction Type	Transaction No.	Date/Time	Task Status	From Unit/Department	From User
Receive Internal	F02SSFS1-0008125	16/03/2018 03:32 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamad Gani
Receive Internal	F02SSFS1-0008126	16/03/2018 03:37 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamad Gani
Receive Internal	F02SSFS1-0008127	16/03/2018 04:07 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamad Gani
Receive Internal	F02SSFS1-0008129	16/03/2018 04:16 PM	Pending to Receive	Substor Farmasi Satelit 1	Fadiah Mohamad Gani

NOTIFICATION

Notification Type	Notification No	Title	Date	From Facility/Unit	Attachment
No Records Found!					

External Notification

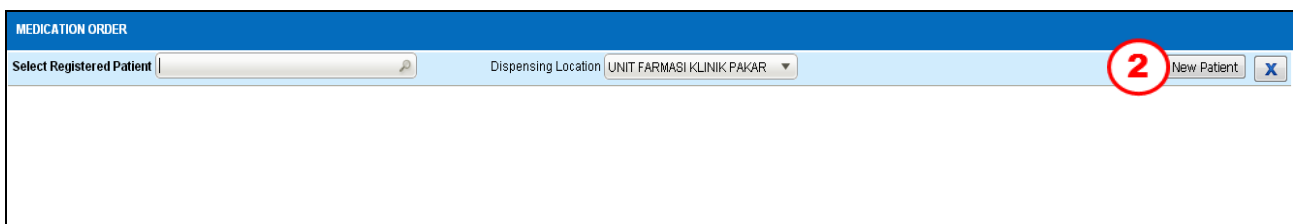
Online External CDR Request Received: 0 Online External CDR Result Received: 0

Figure 3.2-1 PhIS Home Page

To register a new patient, please perform the steps below

STEP 1

Click on 'Order Management' menu followed by 'Record Prescription' and screen will be displayed as per Figure 3.2-1



MEDICATION ORDER

Select Registered Patient [Dropdown] Dispensing Location UNIT FARMASI KLINIK PAKAR [Dropdown]

2 New Patient [Button]

Figure 3.2-2 Transcribe Order Create New Patient

STEP 2

Click on the **New Patient** to register for new patient

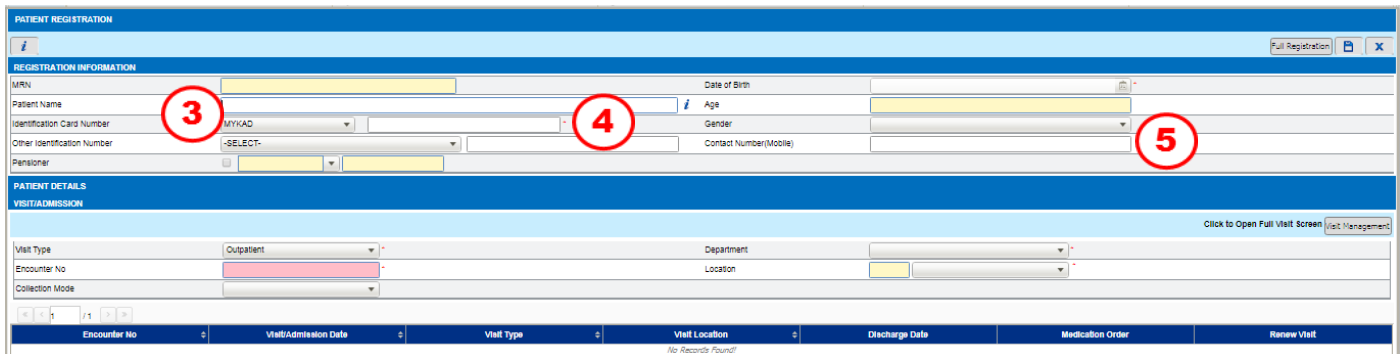


Figure 3.2-3 Registration Information

STEP 3

Enter **Patient Name**

STEP 4

Select from **Identification Card Number** drop down box:

- MYKAD
- MYKID

and enter the relevant number

Note

- After enter the **Identification Card Number** the below details will be displayed:
 - Date of Birth (dd/mm/yy)
 - Age (42Y 05M 21D)
 - Gender (Male/Female)
- If MYKAD/MYKID is unavailable, user is required to select the **Other Identification Number** dropdown box:
 - BIRTH CERTIFICATE
 - DRIVING LICENSE
 - FATHER IC
 - MILITARY CARD NUMBER
 - MOTHER IC
 - OLD IC
 - PASSPORT
 - PENSION CARD
 - POLICE CARD NUMBER
 - UNKNOWN PATIENT
 - WORK PERMIT

and enter the relevant number.

STEP 5

Enter **Contact Number (Mobile)**

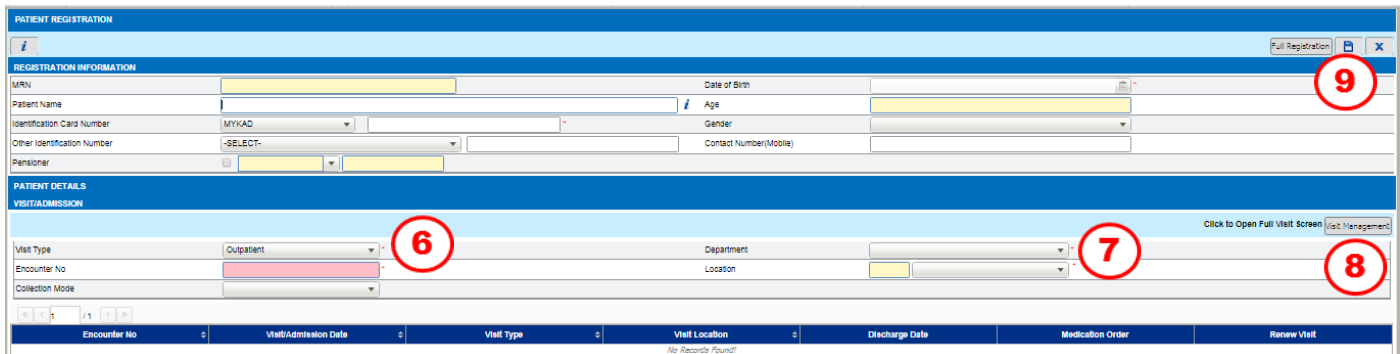


Figure 3.2-4 Visit/Admission

STEP 6

Select the **Visit Type** from dropdown box:

- Daycare
- Emergency
- Inpatient
- Outpatient
- Outsource
- SPUB
- Walk-in

STEP 7

Select the **Department** from dropdown box

Note

Department will tie to the selected visit type.

STEP 8

Select **Location** from dropdown box




Note

Location will tie to the selected Department.

STEP 9

Click on the  button to save the record. The 'Medication Order' screen will be displayed as per Figure 3.2-5

Note

- After click the save button, system will automatically generate the **MRN** (Medical Record Number) and ,  and  buttons will be enabled.
- Click on the **Full Registration** button to access to 'Visit Management' screen.
- Another option to register a new patient is to click on the **New Patient Registration** button located under Patient Quick Registration that will display the same screen as Figure 3.2-3.

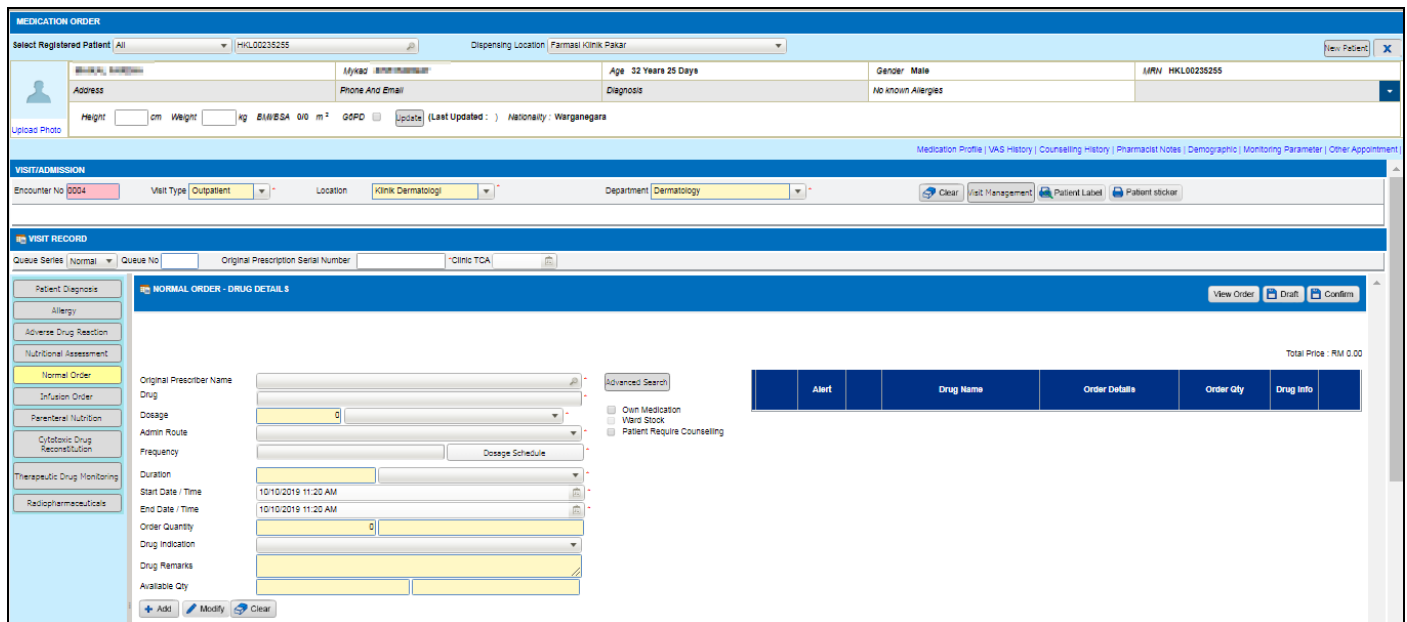


Figure 3.2-5 Medication Order Details

- Prescriber able to update on G6PD. G6PD checkbox will appear as Figure 3.1.1-5. G6PD refer as Deficiency enzyme of Glukosa-6-Fostat Dehydrogenase.

4.0 Parenteral Nutrition (PN) Transcribe Order, Verify, Prepare and Dispense

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

4.1 Nutritional Assessment

To do nutritional assessment for new patient or existing patient's.

Nutritional Assessment allow user to record all nutritional assessment for new patient and existing patient

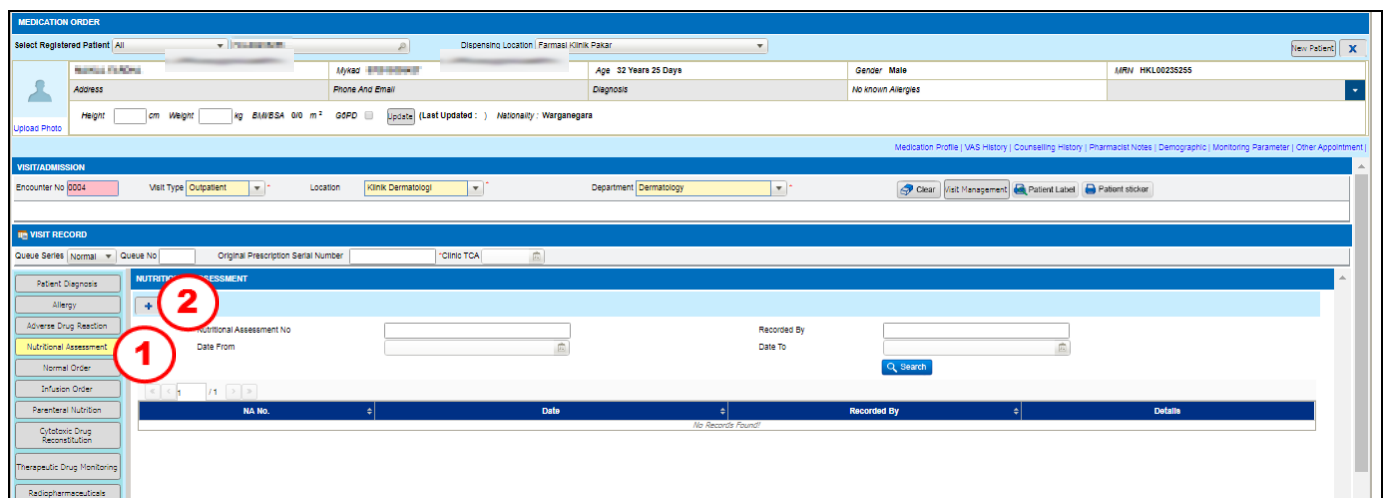



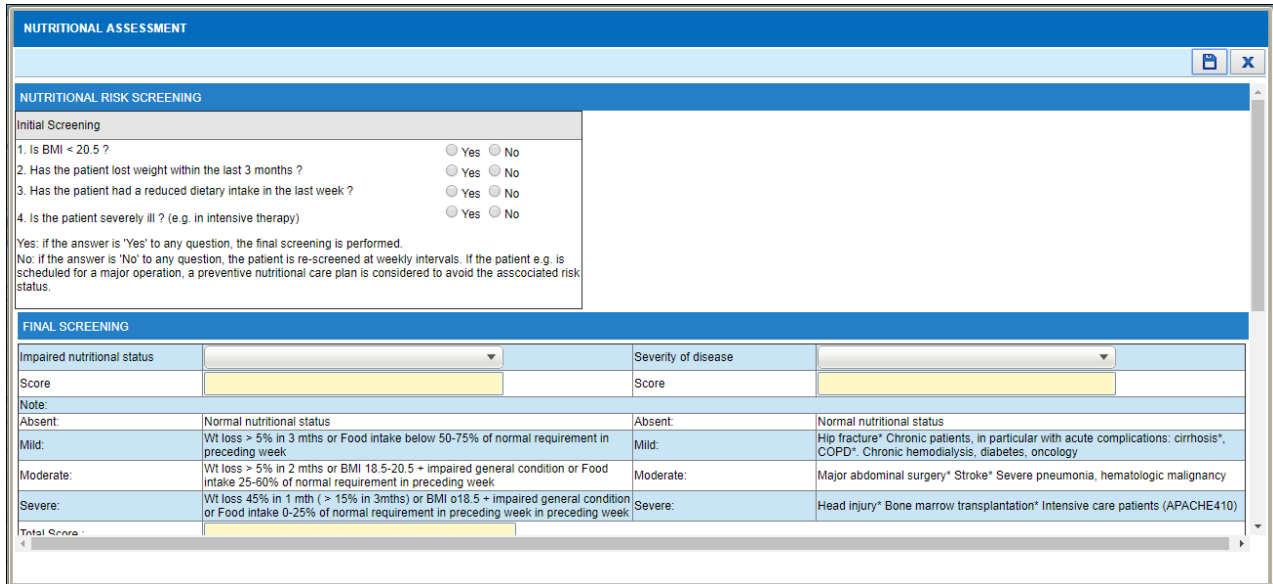
Figure 4.1-1 Nutritional Assessment

STEP 1

Click on the **Nutritional Assessment** button to do nutritional assessment for new patient or existing patient'.

STEP 2

Click on the  button to add new nutritional assessment record



NUTRITIONAL ASSESSMENT

NUTRITIONAL RISK SCREENING

Initial Screening

1. Is BMI < 20.5 ? ☐ Yes ☐ No

2. Has the patient lost weight within the last 3 months ? ☐ Yes ☐ No

3. Has the patient had a reduced dietary intake in the last week ? ☐ Yes ☐ No

4. Is the patient severely ill ? (e.g. in intensive therapy) ☐ Yes ☐ No

Note: If the answer is 'Yes' to any question, the final screening is performed.
No: If the answer is 'No' to any question, the patient is re-screened at weekly intervals. If the patient e.g. is scheduled for a major operation, a preventive nutritional care plan is considered to avoid the associated risk status.

FINAL SCREENING

Impaired nutritional status	<input type="text"/>	Severity of disease	<input type="text"/>
Score	<input type="text"/>	Score	<input type="text"/>
Note:		Note:	
Absent:	Normal nutritional status	Absent:	Normal nutritional status
Mild:	Wt loss > 5% in 3 mths or Food intake below 50-75% of normal requirement in preceding week	Mild:	Hip fracture* Chronic patients, in particular with acute complications: cirrhosis*, COPD*, Chronic hemodialysis, diabetes, oncology
Moderate:	Wt loss > 5% in 2 mths or BMI 18.5-20.5 + impaired general condition or Food intake 25-60% of normal requirement in preceding week	Moderate:	Major abdominal surgery* Stroke* Severe pneumonia, hematologic malignancy
Severe:	Wt loss 45% in 1 mth (> 15% in 3mths) or BMI < 18.5 + impaired general condition or Food intake 0-25% of normal requirement in preceding week	Severe:	Head injury* Bone marrow transplantation* Intensive care patients (APACHE410)
Total Score:	<input type="text"/>		

Figure 4.1-2 Nutritional Assessment

Note

- Answer all question by selecting “Yes” or “No” for **Nutritional Risk Screening**.
- User have to select the **Impaired Nutritional Status** from the dropdown menu:
 - Absent
 - Mild Score
 - Moderate Score
 - Severe Score
- User have to select the **Severity of Disease** from the dropdown menu:
 - Absent
 - Mild Score
 - Moderate Score
 - Severe Score
- **Total Score** for final screening will automatically calculate and display by system.

NUTRITIONAL ASSESSMENT	
Total Score : <input type="text"/>	
if Age is ≥ 70 years, total score above is inclusive +1 Score ≥ 3: the patient is nutritionally at-risk and a nutritional care plan is initiated Score < 3: weekly rescreening of the patient. If the patient e.g. is scheduled for a major operation, a preventive nutritional care plan is considered to avoid the associated risk status.	
SGA HISTORY (Subjective Global Assessment of Nutritional Status HISTORY)	PHYSICAL EXAMINATION
1. Weight change Overall in past 6 months: <input type="text"/> kg % loss: <input type="text"/> Change in past 2 weeks: <input type="text"/>	Specify for each sign: 0=normal 1=light 2=moderate 3-serious <input type="text"/> Loss of subcutaneous fat (triceps, chest) <input type="text"/> Loss of muscle mass (quadriceps, femoris, deltoids, loss of bulk and tone detectable by palpation) <input type="text"/> Ankle edema <input type="text"/> Sacral edema <input type="text"/> Ascites
2. Dietary intake change: <input type="radio"/> Yes <input type="radio"/> No	SGA score <input type="text"/>
3. Gastrointestinal symptoms (persisted > 2 weeks) <input type="checkbox"/> Nausea <input type="checkbox"/> Loss of Appetite <input type="checkbox"/> Vomiting <input type="checkbox"/> Diarrhea	Score Description: A - Well nourished B - Malnourished C - Severe malnourished
4. Functional Capacity <input type="radio"/> No Dysfunction <input type="radio"/> Dysfunction	

Figure 4.1-3 Nutritional Assessment

Note

- All fields for 'SGA - Subjective Global Assessment of Nutritional Status (HISTORY)' section has to be entered by user.
- All field for 'Physical Examination' section has to be entered by user.

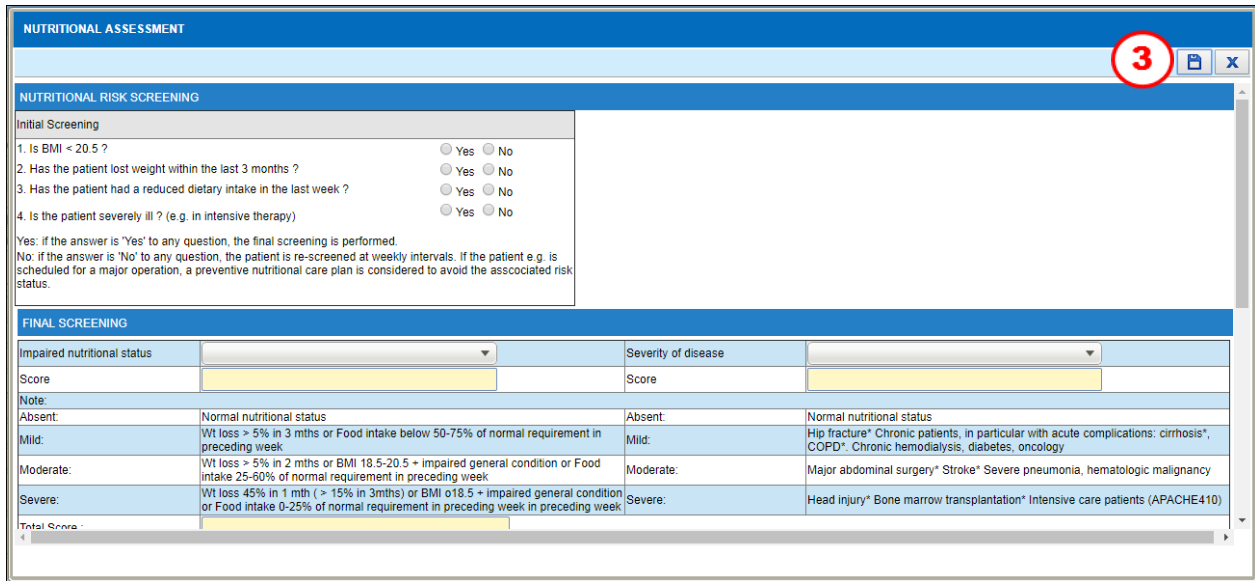



Figure 4.1-4 Nutritional Assessment

STEP 3

Click on the  button to save record and alert message will be displayed as per Figure 4.1-5.

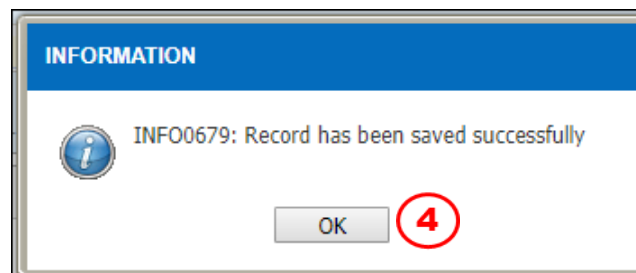


Figure 4.1-5 Information Alert Message

STEP 4

Click on the  button and 'Nutritional Assessment' listing screen will be displayed as per Figure 4.1-6.

MEDICATION ORDER

Select Registered Patient: All | HKL00235255 | Dispensing Location: Farmasi Klinik Pakar | View Patient | X

Address: Mykad: 8888888888888888 | Age: 32 Years 25 Days | Gender: Male | MRN: HKL00235255

Phone And Email: | Diagnosis: | No known Allergies

Height: 157 cm | Weight: 75 kg | BMI/BSA: 22.3 / 2.01 m² | GPO: ☐ | Update (Last Updated: 10/10/2019) | Nationality: Warganegara

Upload Photo

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

VISIT/ADMISSION

Encounter No: 0004 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology | Clear | Visit Management | Patient Label | Patient sticker

VISIT RECORD

Queue Series: Normal | Queue No: | Original Prescription Serial Number: | Clinic TCA: | Search

NUTRITIONAL ASSESSMENT

Nutritional Assessment No: | Recorded By: | Date From: | Date To: | Search

NA No.	Date	Recorded By	Details
NA19-10-0001	10/10/2019	System Administrator	NRS Total Score: 2, SGA Score: N/A

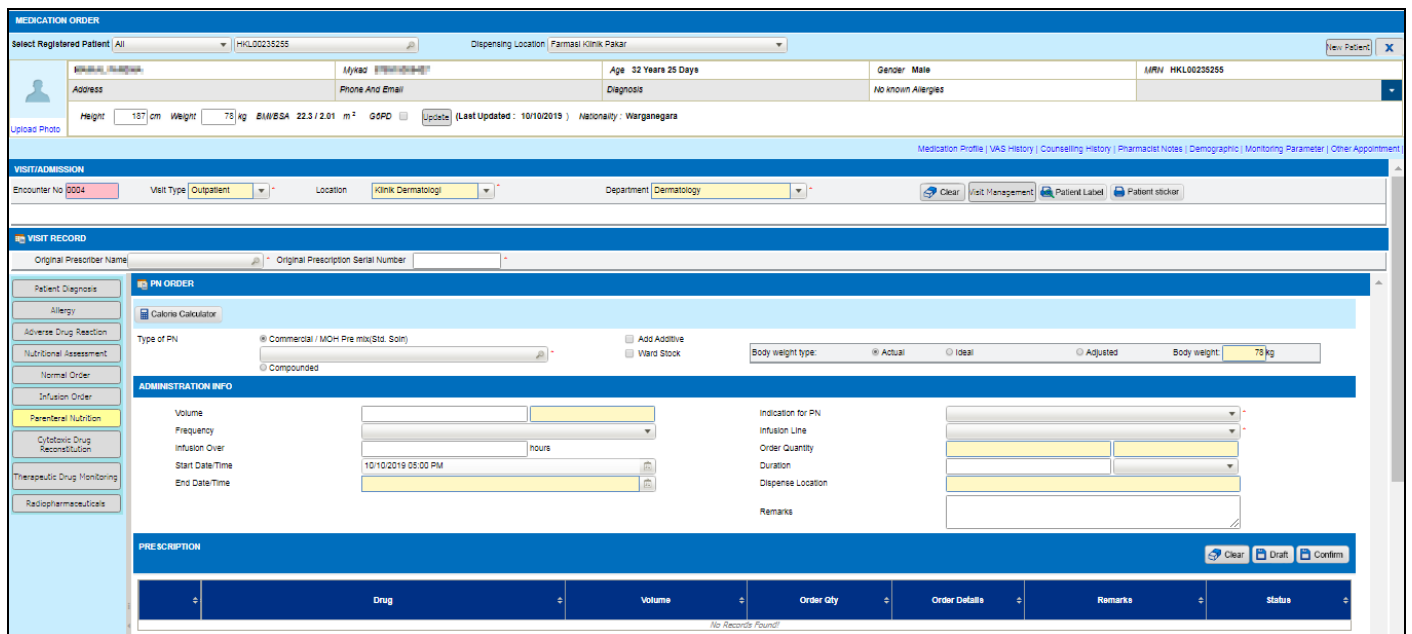
[1-1/1]

Patient Diagnosis
 Allergy
 Adverse Drug Reaction
 Nutritional Assessment
 Normal Order
 Infusion Order
 Parenteral Nutrition
 Cytotoxic Drug Reconstitution
 Therapeutic Drug Monitoring
 Radiopharmaceuticals

Figure 4.1-6 Nutritional Assessment Listing

4.2 Calorie Calculator

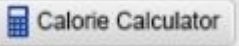
To calculate patient's calorie

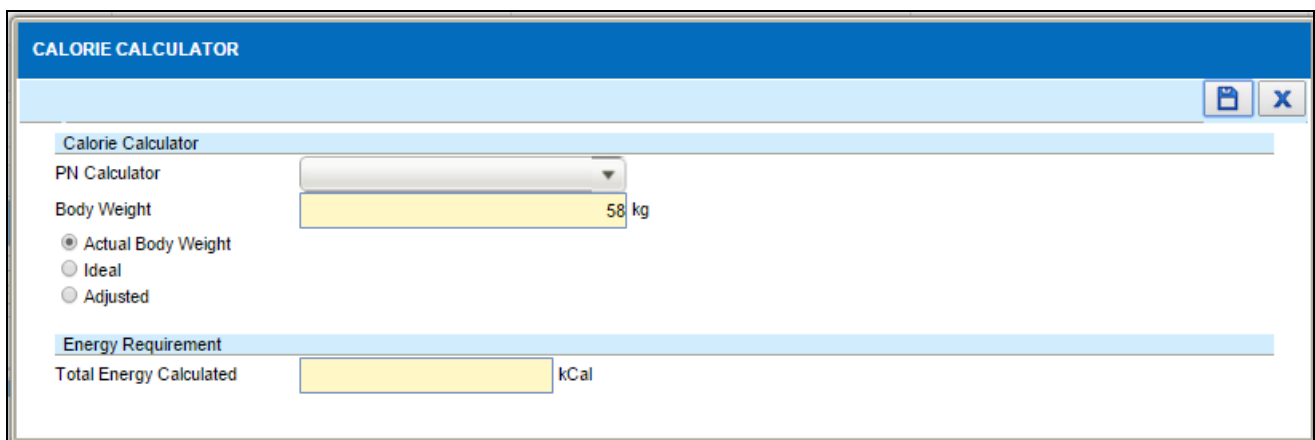


The screenshot shows the 'MEDICATION ORDER' screen. At the top, there's a patient selection dropdown and a 'Dispensing Location' dropdown. Below this, patient details like name, age, gender, and address are visible. The 'VISIT/ADMISSION' section shows the visit type and location. The 'VISIT RECORD' section contains a sidebar with various medical history options. The main area is titled 'PN ORDER' and includes a 'Calorie Calculator' tab. This tab has fields for 'Type of PN', 'Add Additive', 'Body weight type', and 'Body weight'. Below these are 'ADMINISTRATION INFO' fields for volume, frequency, infusion rate, start/end times, and location. A 'PRESCRIPTION' table at the bottom lists drugs, volumes, and order quantities.

Figure 4.2-1 Calorie Calculator

Note

- Calorie calculator allow user to calculate patient's calorie requirement.
- This value will be used as a guideline for user to order the required TPN order for patient.
- Click on the  button to calculate patient calorie.
- 'Calorie Calculator' screen will be displayed as per Figure 4.2-2.



The screenshot shows a dedicated 'CALORIE CALCULATOR' window. It has a title bar with a close button. The main area is divided into sections. The 'Calorie Calculator' section has a 'PN Calculator' dropdown and a 'Body Weight' input field showing '58 kg'. Below this are radio buttons for 'Actual Body Weight' (selected), 'Ideal', and 'Adjusted'. The 'Energy Requirement' section has a 'Total Energy Calculated' input field showing 'kCal'.

Figure 4.2-2 Calorie Calculator

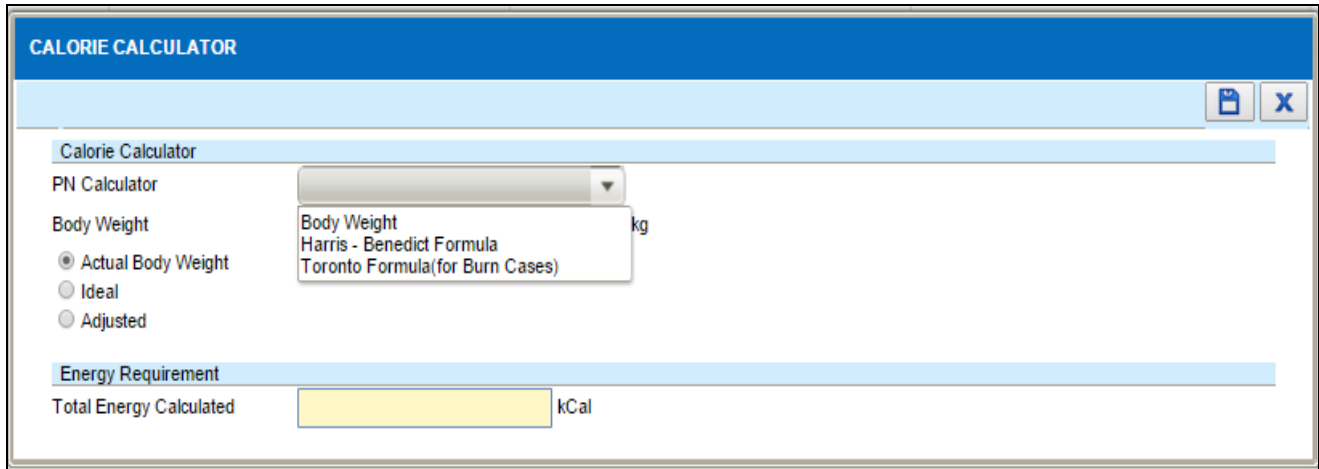
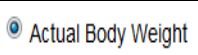
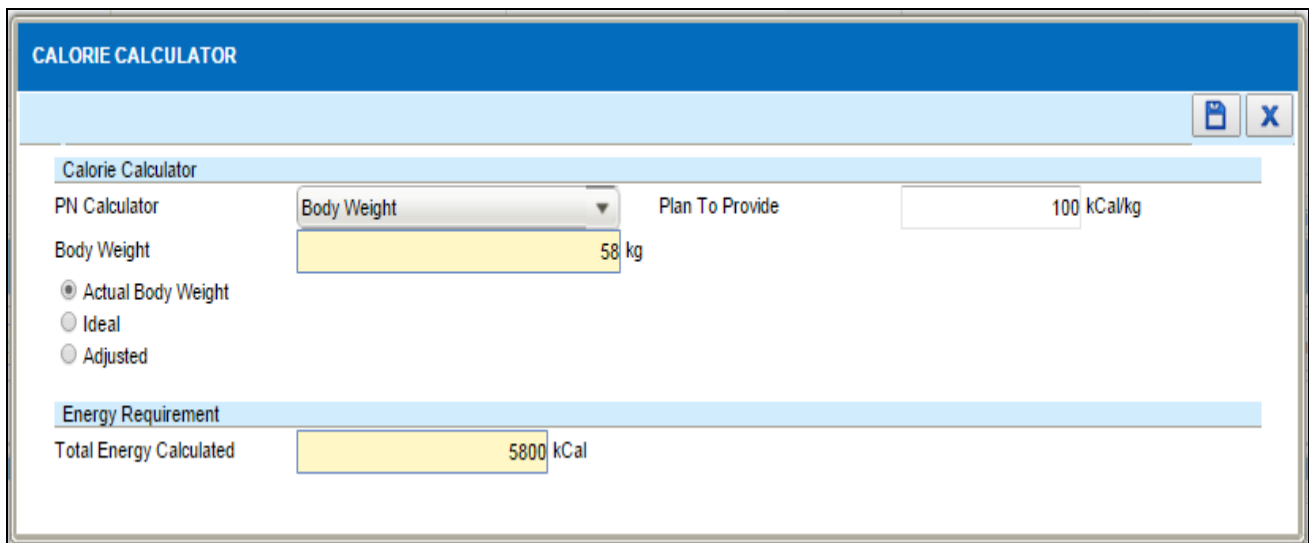


Figure 4.2-3 Calorie Calculator

Note

- By default the 'Body Weight' radio button will auto select the  of the patient.
- User have to select either one of the following 'Body Weight' radio button:
 - Actual Body Weight
 - Ideal
 - Adjusted
- Body Weight value will automatically display based on the information from 'Patient Banner'.
- There are three types of PN Calculator:
 - Body Weight
 - Harris-Benedict Formula
 - Toronto Formula(for Burn Cases)



CALORIE CALCULATOR

Calorie Calculator

PN Calculator: Body Weight (dropdown)

Plan To Provide: 100 kCal/kg

Body Weight: 58 kg

☒ Actual Body Weight
☐ Ideal
☐ Adjusted



Energy Requirement

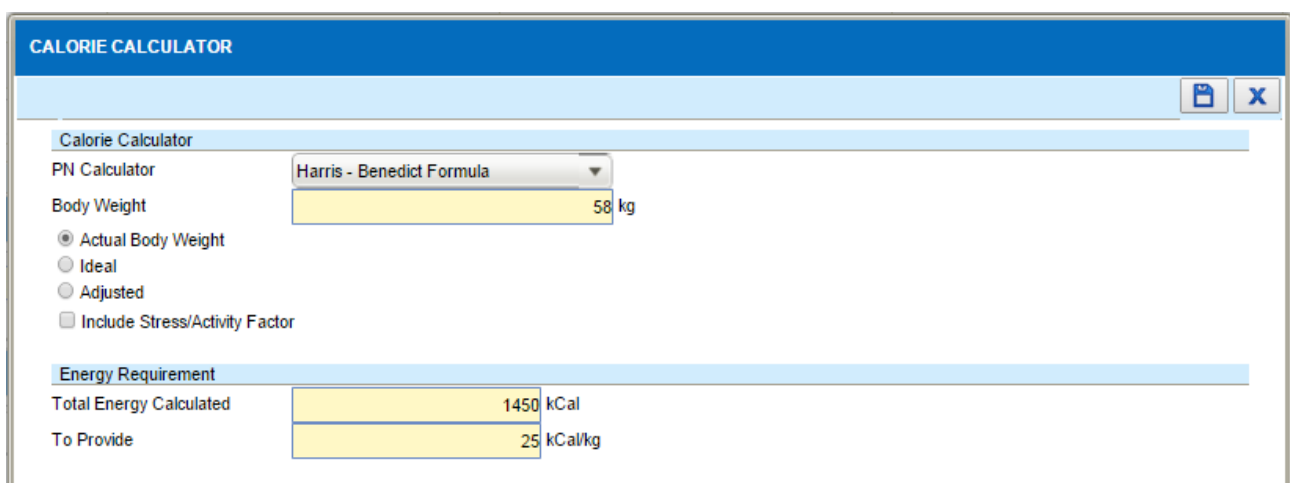
Total Energy Calculated: 5800 kCal

Figure 4.2-4 Calorie Calculator

Note

PN Calculator : Body Weight

- Select 'Body Weight' from 'PN Calculator' dropdown box.
- Enter the amount in 'Plan To Provide (kCal/kg)'.
- 'Total Energy Calculated' will be automatically calculated and displayed as per Figure 4.2-4.
- The  button to save record.
- The  button to close the screen.



CALORIE CALCULATOR

Calorie Calculator

PN Calculator: Harris - Benedict Formula (dropdown)

Body Weight: 58 kg

☒ Actual Body Weight
☐ Ideal
☐ Adjusted
☐ Include Stress/Activity Factor

Energy Requirement

Total Energy Calculated: 1450 kCal

To Provide: 25 kCal/kg

Figure 4.2-5 Calorie Calculator

Note

PN Calculator : Harris-Benedict Formula

- Select 'Harris – Benedict Formula' from 'PN Calculator' dropdown box.
- Select the ☒ 'Include Stress/Activity Factor' checkbox.
- 'Stress Factor', 'Activity Factor' and 'To Provide (kCal/kg)' will display after selected the 'Include Stress/ Activity Factor' checkbox as shown in Figure 4.2-6.

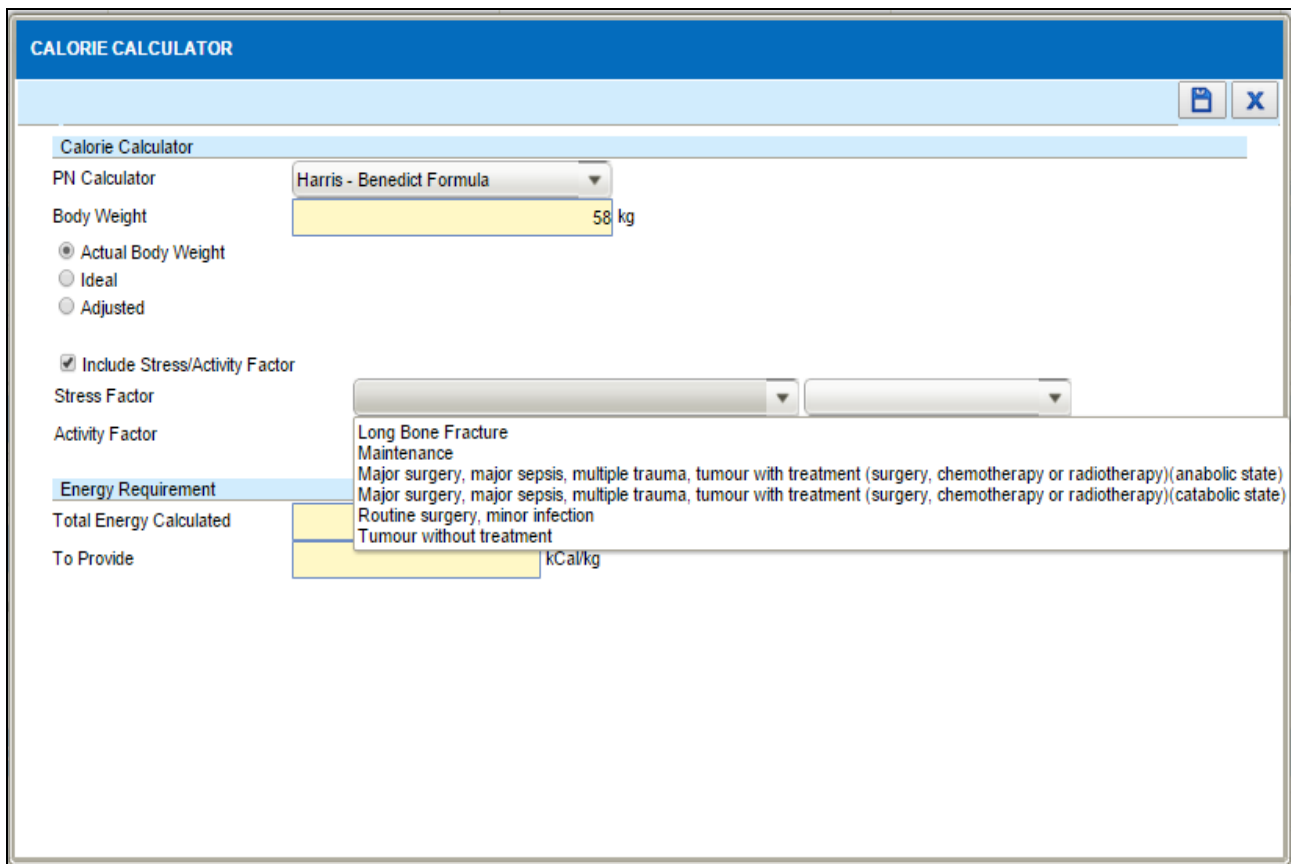


Figure 4.2-6 Calorie Calculator

Note

User have to select the type of 'Stress Factor' from the dropdown box:

- Long Bone Fracture.
- Maintenance.
- Major surgery, major sepsis, multiple trauma, tumour with treatment (surgery, chemotherapy or radiotherapy)(anabolic state).
- Major surgery, major sepsis, multiple trauma, tumour with treatment (surgery, chemotherapy or radiotherapy)(catabolic state).
- Routine surgery, minor infection.
- Tumour without treatment.

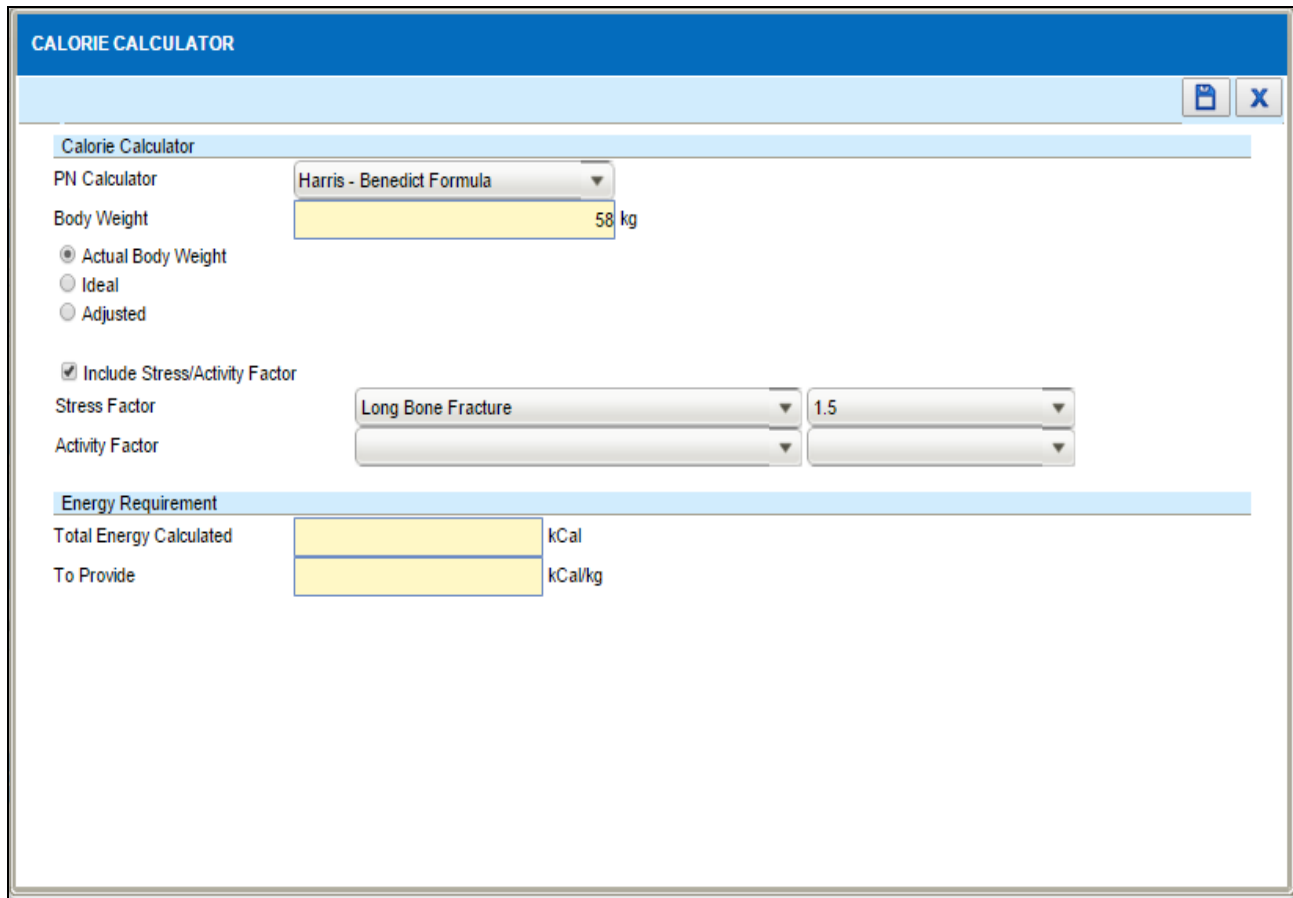


Figure 4.2-7 Calorie Calculator

Note

Value of the 'Stress Factor' will be automatically calculated by system.

CALORIE CALCULATOR

Calorie Calculator

PN Calculator

Harris - Benedict Formula

Body Weight

58 kg

☒ Actual Body Weight
☐ Ideal
☐ Adjusted

☒ Include Stress/Activity Factor

Stress Factor

Long Bone Fracture

Activity Factor

1.5

Energy Requirement

Bed
 In Bed but mobile
 Mobile

Total Energy Calculated

To Provide

kCal/kg

Figure 4.2-8 Calorie Calculator

Note

From the dropdown box user have to select type of 'Activity Factor' list which are:

- Bed
- In Bed but mobile
- Mobile

CALORIE CALCULATOR

Calorie Calculator

PN Calculator

Harris - Benedict Formula

Body Weight

58 kg

☒ Actual Body Weight
 ☐ Ideal
 ☐ Adjusted

☒ Include Stress/Activity Factor

Stress Factor

Long Bone Fracture

1.5

Activity Factor

Bed

1.1

Energy Requirement

Total Energy Calculated

2392.5 kCal

To Provide



41.2 kCal/kg

Save

Close

Figure 4.2-9 Calorie Calculator

Note

- Value of the 'Activity Factor' will be automatically calculated by system.
- Amount of 'Total Energy Calculated' and 'To Provide (kCal/kg)' will be automatically calculated after selected the 'Activity Factor' as per Figure 4.2-9.
- The  button to save record.
- The  button to close the screen.

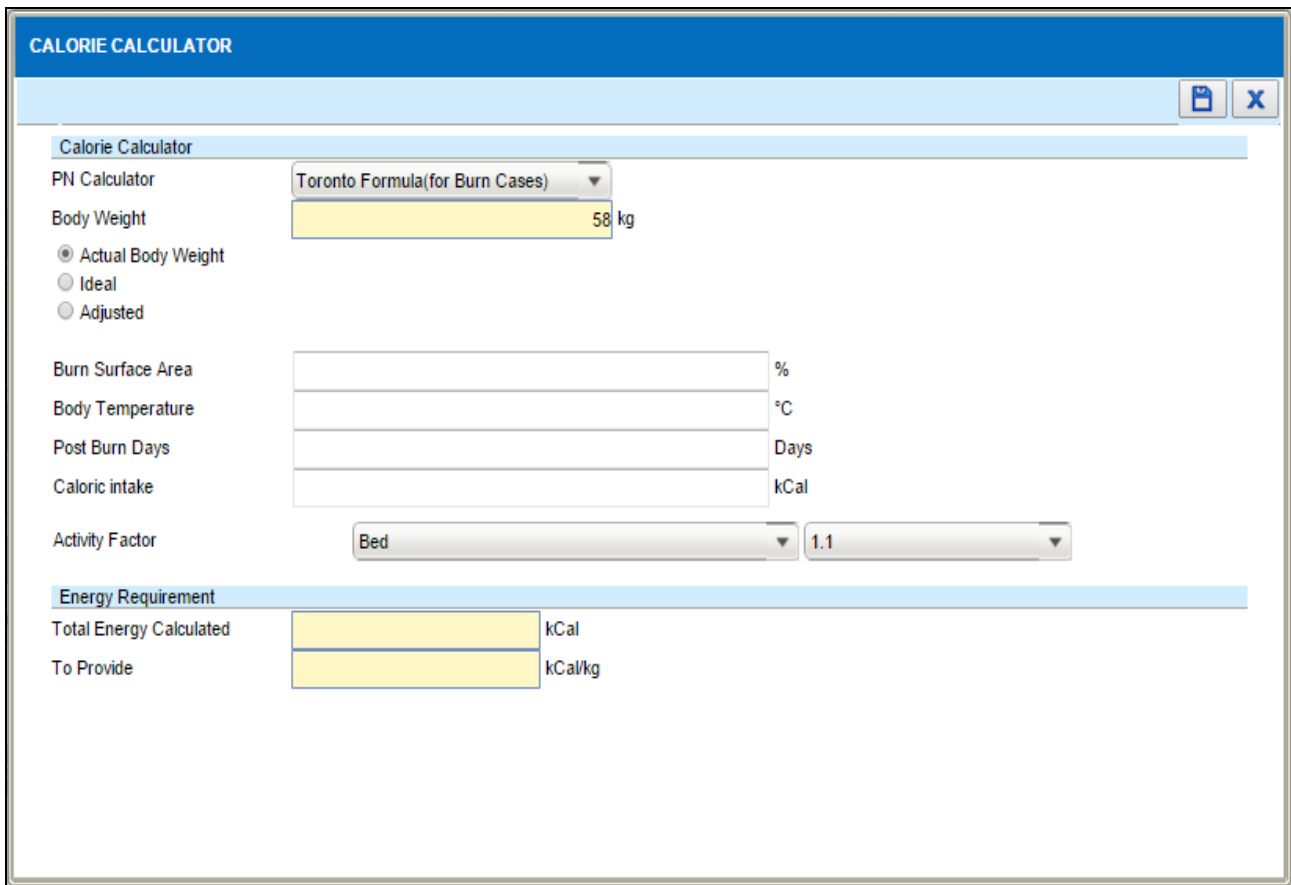




Figure 4.2-10 Calorie Calculator

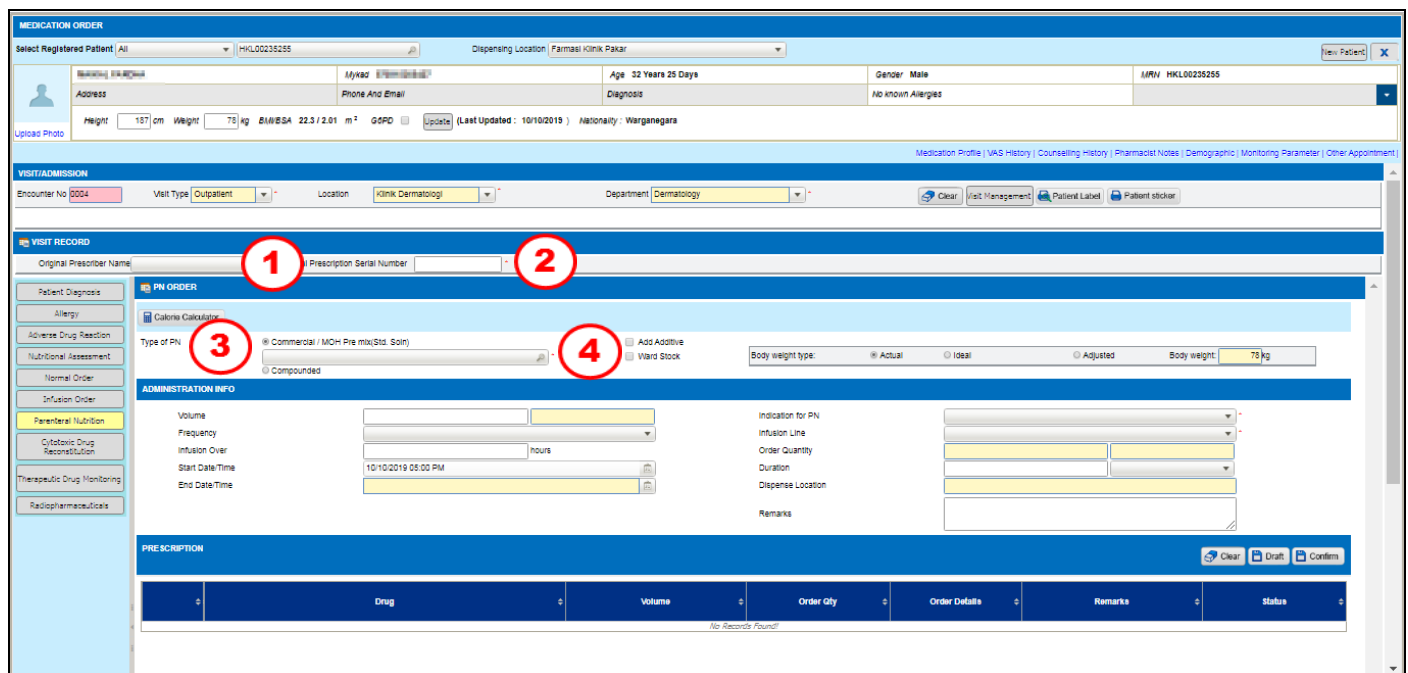
Note

PN Calculator : Toronto Formula

- Select 'Toronto Formula (for Burn Cases)' from 'PN Calculator' dropdown box.
- Enter fields as below:
 - Burn Surface Area
 - Body Temperature
 - Post Burn Days
 - Calorie Intake
- User have to select type of 'Activity Factor' from the dropdown box:
 - Bed
 - In Bed but mobile
 - Mobile
- Value of the 'Activity Factor' will be automatically calculated by system.

- ‘Total Energy Calculated’ and ‘To Provide (kCal/kg)’ will be automatically calculated after selected the ‘Activity Factor’ as per Figure 4.2-10.
- The  button to save record.
- The  button to close the screen.

4.3 Commercial / MOH Pre mix (Std Soln)



Medication Order

Select Registered Patient: All | HKL00235255 | Dispensing Location: Farmasi Klinik Pakar

Patient Information: Myxar, Age: 32 Years 25 Days, Gender: Male, MRN: HKL00235255, Address, Phone And Email, Diagnosis, No known Allergies

Visit/Admission: Encounter No: 0004, Visit Type: Outpatient, Location: Klinik Dermatologi, Department: Dermatology

Visit Record: Original Prescriber Name (1), Prescription Serial Number (2)

PN ORDER: Type of PN (3) Commercial / MOH Pre mix(Std. Soln), Add Additive (4), Body weight type: Actual, Ideal, Adjusted, Body weight: 78 kg


ADMINISTRATION INFO: Volume, Frequency, Indication for PN, Infusion Line, Order Quantity, Duration, Dispense Location, Remarks

PRESCRIPTION: Table with columns: Drug, Volume, Order Qty, Order Details, Remarks, Status

Figure 4.3-1 PN Order : Commercial

Commercial / MOH Pre Mix (Std. Soln) allow user to order ready made product from manufacturer or facility


STEP 1

Click on the  button to search for **Original Prescriber Name**

STEP 2

Enter the **Original Prescription Serial Number**

STEP 3

Select on the  **Commercial / MOH Pre mix(Std. Soln)** radio button for 'Type of PN'

STEP 4

Click on the  button to search for product

Drugs

X

Drug Code

Search

Drug Name

1 / 1

Drug Code	Drug Name	Details
PNA00011	Kabiven Central 900kcal 1.026L	Details
PNA00015	Kabiven Periferal 1400kcal, 2.0L	Details
PNA00002	Nutriflex Lipid Peri 1435kcal, 1.875L	Details
PNA00001	Nutriflex Lipid Peri 955kcal, 1.25L	Details
PNA00005	Nutriflex Lipid Plus 1900kcal, 1.875L	Details

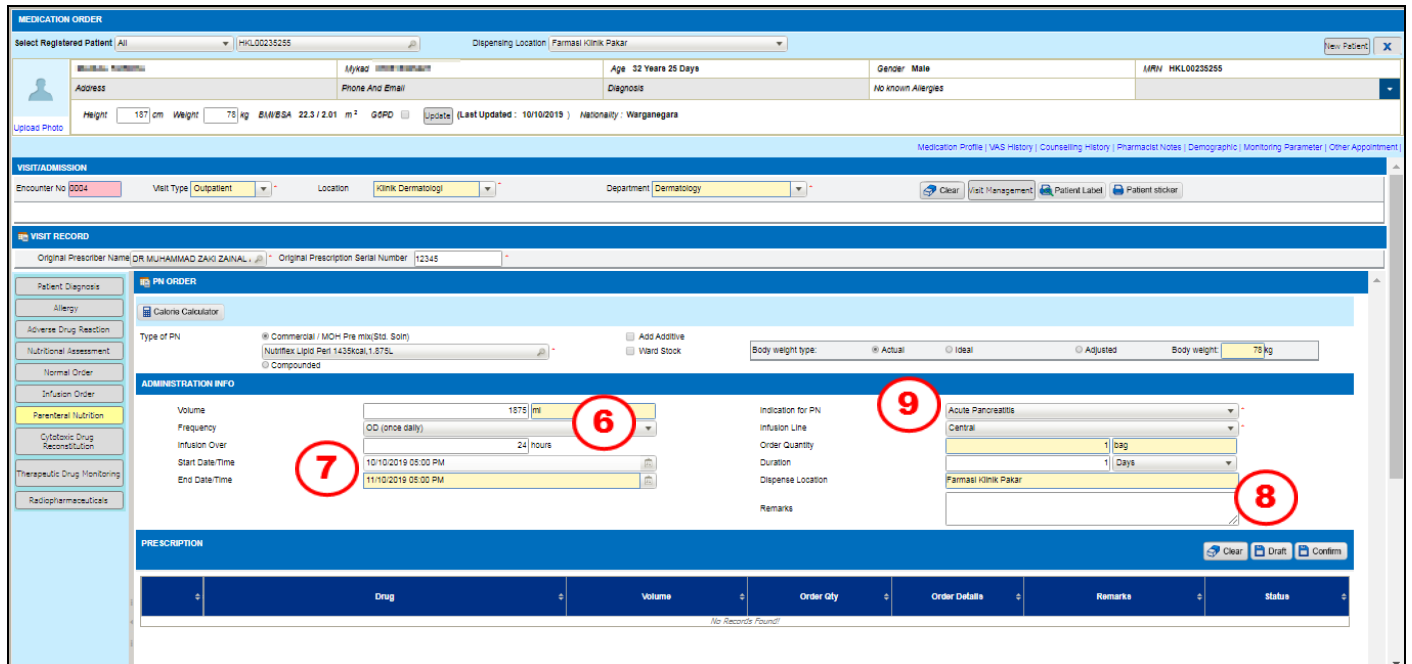
Figure 4.3-2 Drugs Listing

STEP 5

Select product that required for patient

Note

- To search for product record(s), user may search by criteria as follow:
 - Drug Code
 - Drug Name
- Click on the button to search for the product.
- Click on the [Details](#) button to view product ingredients and content.



Medication Order

Select Registered Patient: All | HKL00235255 | Dispensing Location: Farmasi Klinik Pakar

Patient Information: Mykad: 111111111111111111 | Age: 32 Years 25 Days | Gender: Male | M/RN: HKL00235255
Address: | Phone And Email: | Diagnosis: | No known Allergies

Height: 157 cm | Weight: 75 kg | BMI/BSA: 22.3 / 2.01 m² | GPO: | Update (Last Updated: 10/10/2019) | Nationality: Warganegara

Visit/Admission: Encounter No: 0004 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology

Visit Record: Original Prescriber Name: DR MUHAMMAD ZAIQ ZAINAL | Original Prescription Serial Number: 12345

PN ORDER: Type of PN: Commercial / MOH Pre mix (Std. Soln) | Add Additive: | Ward Stock: | Body weight type: Actual | Ideal | Adjusted | Body weight: 75 kg

ADMINISTRATION INFO: Volume: 1575 ml | Frequency: QD (once daily) | Indication for PN: Acute Pancreatitis | Infusion Line: Central | Order Quantity: 1 | Order Details: 1 | Duration: 1 | Days | Dispense Location: Farmasi Klinik Pakar

PRESCRIPTION: Drug: | Volume: | Order Qty: | Order Details: | Remarks: | Status: |

Figure 4.3-3 PN Order : Commercial

STEP 6

Enter **Volume** and select **Frequency** field

Note

- All details under coloum administartion info field will be automatically displayed based on the information from PN Source Content and PN Constituents Reference Range. Selected coloum need to fill up based on mandatory requirements.
- This field still can be change by the user if applicable.

STEP 7

Select **Start Date/Time**

Note

- Start Date/Time** and will be automatically default to current date but still can be change by the user if applicable.
- End Date/Time** will be displayed according to duration product given.
- Order Quantity** will be automatically displayed and base on the information from PN Source Content and PN Constituents Reference Range.

STEP 8

Enter Remarks if applicable

STEP 9

Select Indication for PN from the dropdown menu



Figure 4.3-4 PN Order : Commercial

STEP 10

Select **Infusion Line** from drop down menu

STEP 11

Enter/select ***Duration*** field

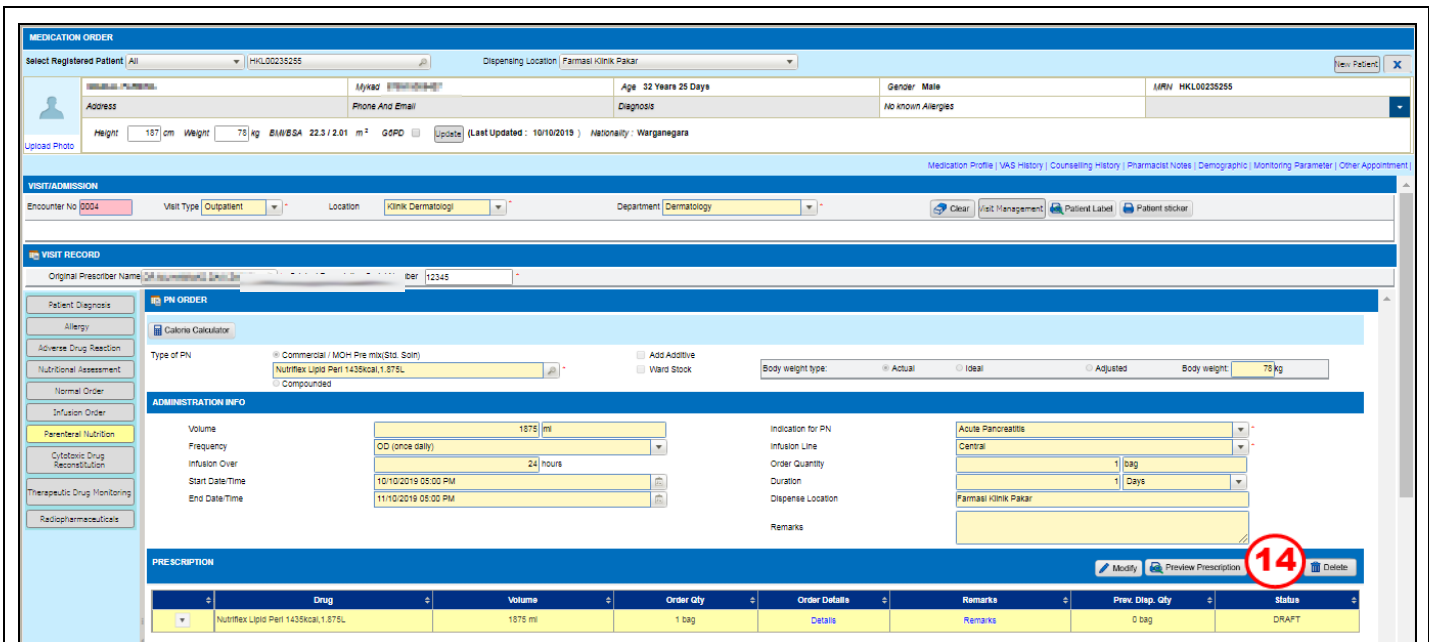
STEP 12

Click on the  Draft button to save record and alert message will be displayed as per Figure 4.3-5

Figure 4.3-5 Information Alert message

STEP 13

Click on the  button to save order record



MEDICATION ORDER

Select Registered Patient: All | HKL00235255 | Dispensing Location: Farmasi Klinik Pakar

Patient Details: Mykad: 878787878787 | Age: 32 Years 25 Days | Gender: Male | MRN: HKL00235255
 Address: | Phone And Email: | Diagnosis: | No known Allergies

Height: 157 cm | Weight: 75 kg | BMI/BSA: 22.3 / 2.01 m² | GPO: | Update (Last updated: 10/10/2019) | Nationality: Warganegara

VISIT/ADMISSION
 Encounter No: 0004 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology

VISIT RECORD
 Original Prescriber Name: Dr. Muhammad Azmi Bin | ID: 12345

PN ORDER
 Patient Diagnosis: | Allergy: | Adverse Drug Reaction: | Nutritional Assessment: | Normal Order: | Infusion Order: | Parenteral Nutrition: | Cytotoxic Drug Reconstitution: | Therapeutic Drug Monitoring: | Radiopharmaceuticals:

ADMINISTRATION INFO
 Type of PN: Commercial / MOH Pre mix (Std. Soln) | Add Additive: | Ward Stock: | Body weight type: Actual | Ideal | Adjusted | Body weight: 75 kg
 Volume: 1575 ml | Frequency: OD (once daily) | Indication for PN: Acute Pancreatitis
 Infusion Over: 24 hours | Infusion Line: Central
 Start Date/Time: 10/10/2019 05:00 PM | Order Quantity: 1 bag
 End Date/Time: 11/10/2019 05:00 PM | Duration: 1 Days
 Dispense Location: Farmasi Klinik Pakar

PRESCRIPTION
 Modify | Preview Prescription | 14 | Delete



Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Nutriflex Lipid Peri 1435Kcal/1.875L	1575 ml	1 bag	Details	Remarks	0 bag	DRAFT

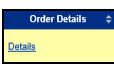

Figure 4.3-6 PN Order : Commercial

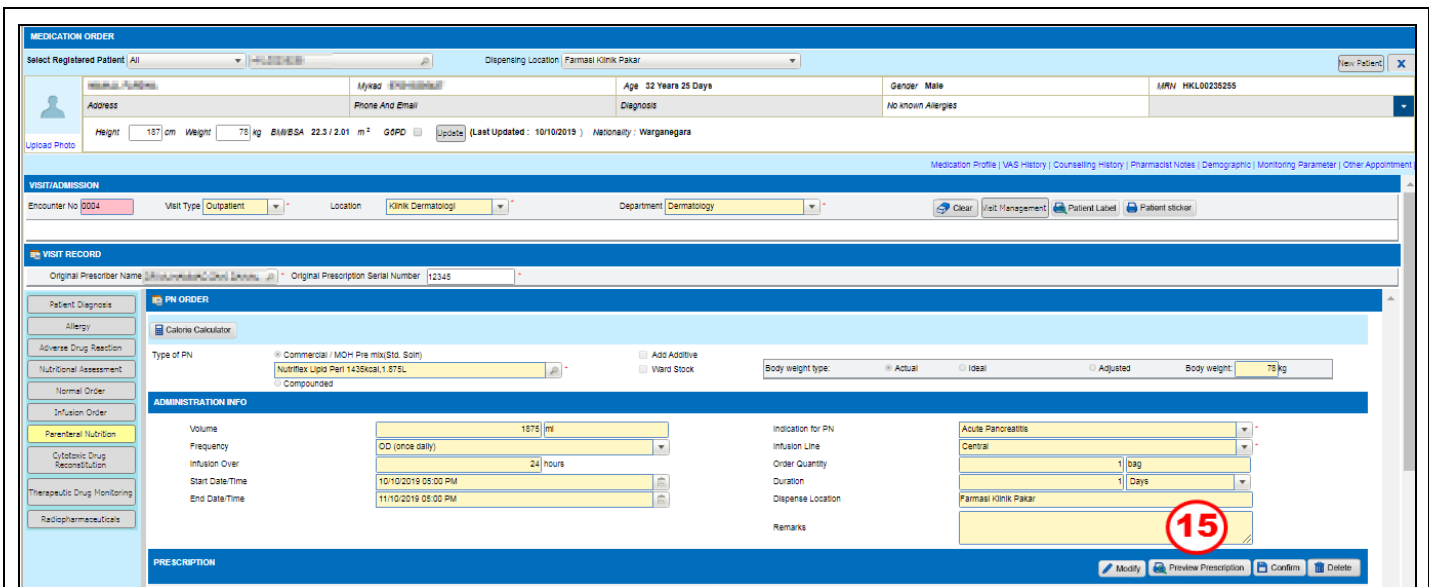
STEP 14

Click on the  button to confirm prescription

Note

- User can directly click on  button to directly confirm order without clicking on  button first.

- Click on the  link and 'PN Order Details' screen will be displayed as per Figure 4.3-6.
- Click on the  link and 'PN Remarks' screen will be displayed as per Figure 4.3-6.



MEDICATION ORDER

Select Registered Patient: All | Dispensing Location: Farmasi Klinik Pakar

Patient Details: Mykad: 818-818181 | Age: 32 Years 25 Days | Gender: Male | I/R/N: HKL00235255
 Address: | Phone And Email: | Diagnosis: No known Allergies

Height: 187 cm | Weight: 78 kg | BMI/BSA: 22.3 / 2.01 m² | GPO: | Update (Last Updated: 10/10/2019) | Nationality: Warganegara

VISIT/ADMISSION: Encounter No: 0004 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology

VISIT RECORD: Original Prescriber Name: Dr. Muhammad Azmi bin Ahmad | Original Prescription Serial Number: 12345

PN ORDER: Type of PN: Commercial / MOH Pre mix (Std. Soln) | Add Additive: | Ward Stock: | Body weight type: Actual | Body weight: 78 kg

ADMINISTRATION INFO: Volume: 1875 ml | Frequency: OD (once daily) | Indication for PN: Acute Pancreatitis | Infusion Line: Central | Order Quantity: 1 bag | Duration: 1 Days | Start Date/Time: 10/10/2019 05:00 PM | End Date/Time: 11/10/2019 05:00 PM | Dispense Location: Farmasi Klinik Pakar

PRESCRIPTION: Modify | Preview Prescription | Confirm | Delete

Figure 4.3-7 PN Order : Commercial

STEP 15

Click on the  button to preview and print PN prescription as per Figure 4.3-7

PN ORDER DETAILS										
<p>Patient Details: Mykad: 818-818181 Age: 32 Years 25 Days Gender: Male I/R/N: HKL00235255 Address: Phone And Email: Diagnosis: No known Allergies</p> <p>Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m² (Last Updated: 10/10/2019) 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 1435Kcal/1.875L	1875	1435	24	78.13 ml/hour	1 bag	OD (once daily)	1 Days	10/10/2019 05:00 PM	11/10/2019 05:00 PM	
<p>NA</p> <p>Intervention Reason: Intervention Remarks: Central Intervention Accepted</p>										

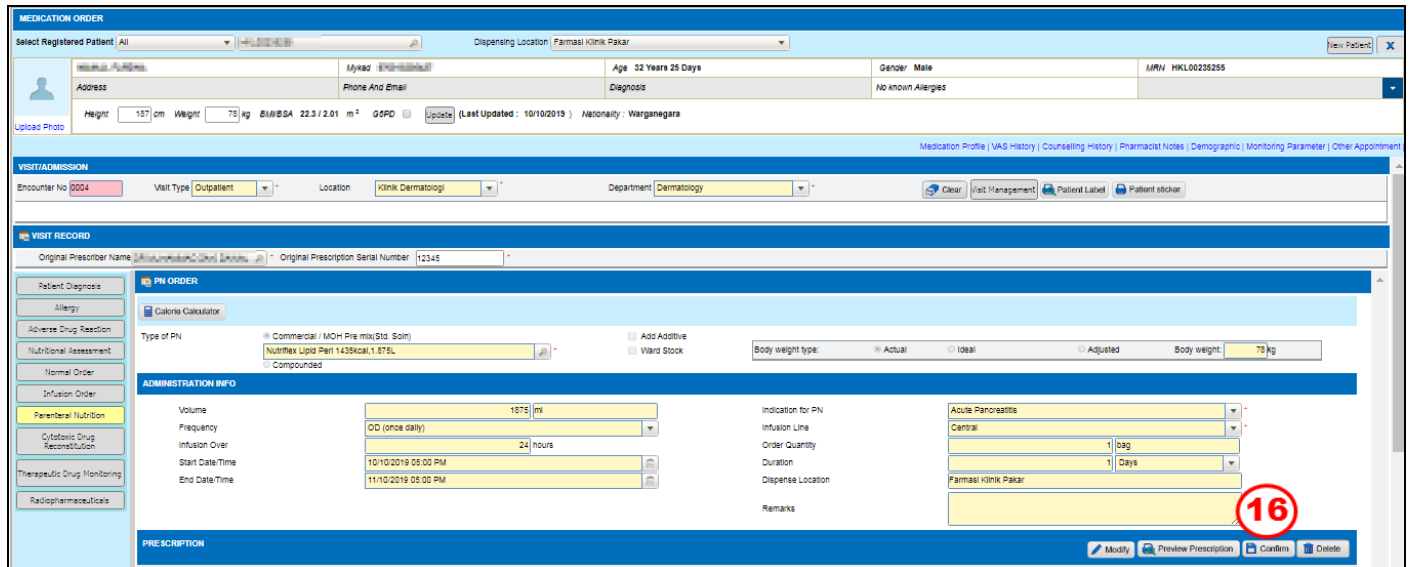
Figure 4.3-8 PN Order Details

Note

'PN Order Details' screen as per Figure 4.3-8.

Note

Sample of PN prescription is as shown in Figure 4.3-10.



Medication Order

Select Registered Patient: All | Dispensing Location: Farmasi Klinik Pakar

Patient Information:
 Name: Mykard, Mykard, Mykard | Age: 32 Years 25 Days | Gender: Male | MRN: HKL00235355
 Address: | Phone And Email: | Diagnosis: No known Allergies
 Height: 157 cm | Weight: 75 kg | BMI/BSA: 22.3 / 2.01 m² | GPO: | Update (Last updated: 10/10/2019) | Nationality: Warganegara

VISIT/ADMISSION:
 Encounter No: 0004 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology

VISIT RECORD:
 Original Prescriber Name: | Original Prescription Serial Number: 12345


PN ORDER:
 Patient Diagnosis: | Allergy: | Adverse Drug Reaction: | Nutritional Assessment: | Normal Order: | Infusion Order: | Parenteral Nutrition: | Cytotoxic Drug Reconstitution: | Therapeutic Drug Monitoring: | Radiopharmaceuticals: |
 Type of PN: Commercial / MOH Pres mix (Std. Soln) | Add Additive: | Ward Stock: | Body weight type: Actual | Ideal | Adjusted | Body weight: 75 kg
 Nutriflex Upid Peri 1438kcal, 1.875L | Compounded

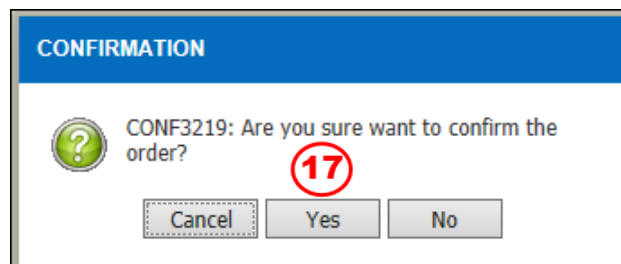
ADMINISTRATION INFO:
 Volume: 1575 ml | Indication for PN: Acute Pancreatitis
 Frequency: OD (once daily) | Infusion Line: Central
 Infusion Over: 24 hours | Order Quantity: 1 bag
 Start Date/Time: 10/10/2019 05:00 PM | Duration: 1 Days
 End Date/Time: 11/10/2019 05:00 PM | Dispense Location: Farmasi Klinik Pakar

PRESCRIPTION:
 Modify | Preview Prescription | Confirm | Delete

Figure 4.3-11 PN Order : Commercial

STEP 16

Click on the  button to confirm record order and alert message will be appeared as per Figure 4.3-12



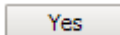
CONFIRMATION

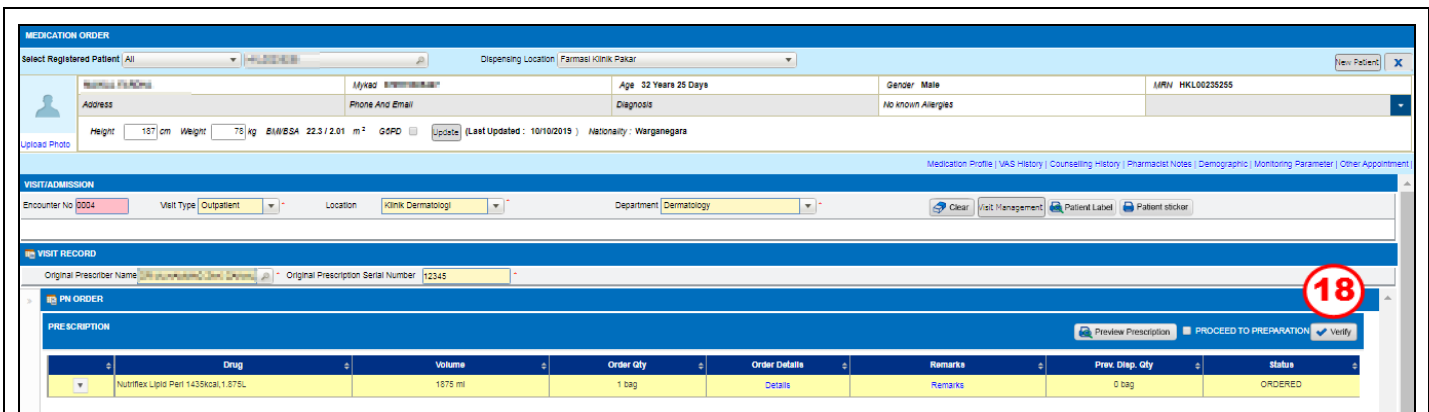
CONF3219: Are you sure want to confirm the order?

Cancel Yes No

Figure 4.3-12 Information Alert Message

STEP 17

Click on the  button to confirm ordered saved and to verify PN Order screen will be appeared as per Figure 4.3-13



MEDICATION ORDER

Select Registered Patient: All | Dispensing Location: Farnasi Klinik Pakar | New Patient

Patient Information:
 Name: HUSNIA RAJIMA | Mykad: 888888888888 | Age: 32 Years 25 Days | Gender: Male | MRN: HKL00235255
 Address: | Phone And Email: | Diagnosis: | Allergies: NO known Allergies
 Height: 157 cm | Weight: 75 kg | BMI/BGA: 22.5 / 2.01 m² | GPO: | Update (Last Updated: 10/10/2015) | Nationality: Warganegara

VISIT/ADMISSION
 Encounter No: 0004 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology
 Clear | Visit Management | Patient Label | Patient sticker


VISIT RECORD
 Original Prescriber Name: | Original Prescription Serial Number: 12345

PN ORDER
 Preview Prescription | PROCEED TO PREPARATION | Verify


Drug	Volume	Order Qty	Order Details	Remarks	Prev. Disp. Qty	Status
Nutriflex Lipid Peri 1435kcal/1.575L	1575 ml	1 bag	Details	Remarks	0 bag	ORDERED

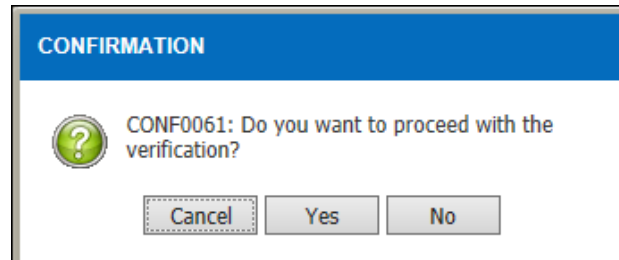
Figure 4.3-13 PN Order : Verification

STEP 18


Click on the  button to verify the order and alert message will be displayed as per Figure 4.3-14

Note

- Click on the  button to confirm the verification.
- Verified order will be flowed to preparation stage.



CONFIRMATION

 CONF0061: Do you want to proceed with the verification?

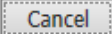
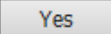
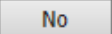
  

Figure 4.3-14 Confirmation Alert Message

PN PREPARATION

Prescription X

MyKad: [REDACTED] Age: 32 Years 25 Days Gender: Male MRN: [REDACTED]

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

Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m² Update (Last Updated: 10/10/2019) Nationality: Warganegara

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

Encounter No: 0004 Actual Visit Date: 10/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000740999 Order By: [REDACTED] Transcribed By: [REDACTED]

Original Prescription Serial No: 12345

PHARMACY ORDER

Prepared Date/Time: 10/10/2019 04:54 PM

PRESCRIPTION

PROCEED TO DISPENSING Prepare Label

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

Figure 4.3-15 PN Preparation

STEP 19

Click on the **0 bag** link to allocate quantity and 'Item Batch Details' screen will be displayed as per Figure 4.3-16

ITEM BATCH DETAILS

Drug Code: PNA00007 Default SKU: bag

Drug Name: Nutriflex Lipid Special 740kcal, 0.625L

BATCH DETAIL

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
174528052	06/11/2019	20	1	1

Total Location Quantity: 20 Total Allocated Quantity: 1

Figure 4.3-16 Item Batch Details

STEP 20

Enter **Allocated Qty**

STEP 21

Click on the  button to save record


CONFIRMATION

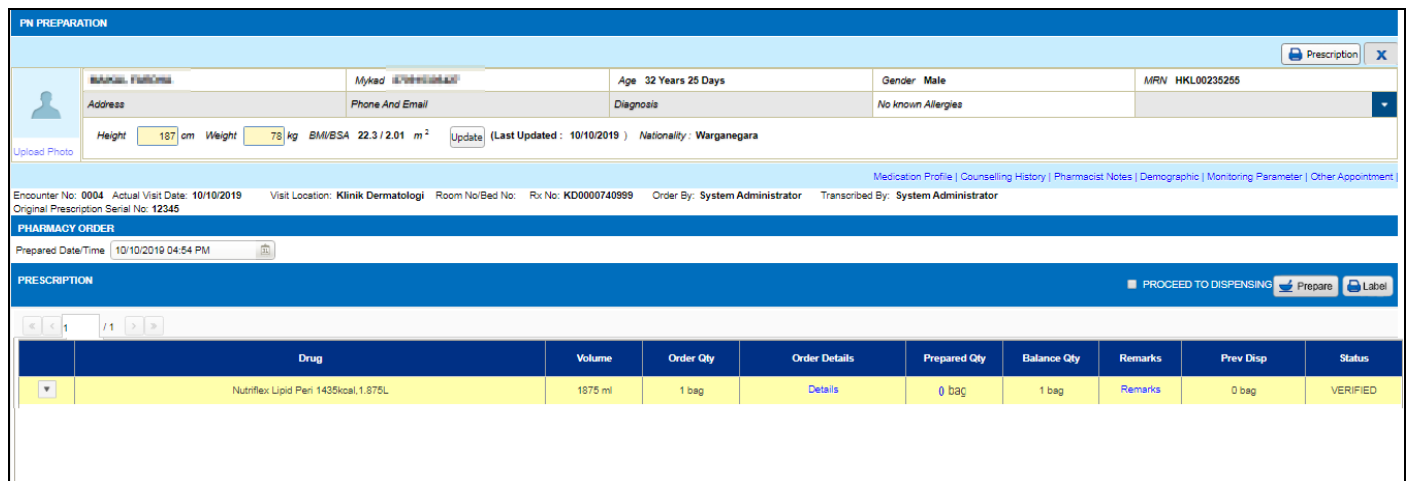
CONF0002: Are you sure you want to save?

Cancel Yes No

Figure 4.3-17 Confirmation Alert Message

STEP 22

Click on the  button to confirm save



PN PREPARATION

Prescription X

Address: MyKad: Age: 32 Years 25 Days Gender: Male MRN: HKL00235255

Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m² Update (Last Updated: 10/10/2019) Nationality: Warganegara

Encounter No: 0004 Actual Visit Date: 10/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000740999 Order By: System Administrator Transcribed By: System Administrator

Original Prescription Serial No: 12345

PHARMACY ORDER

Prepared Date/Time: 10/10/2019 04:54 PM

PRESCRIPTION

PROCEED TO DISPENSING Prepare Label

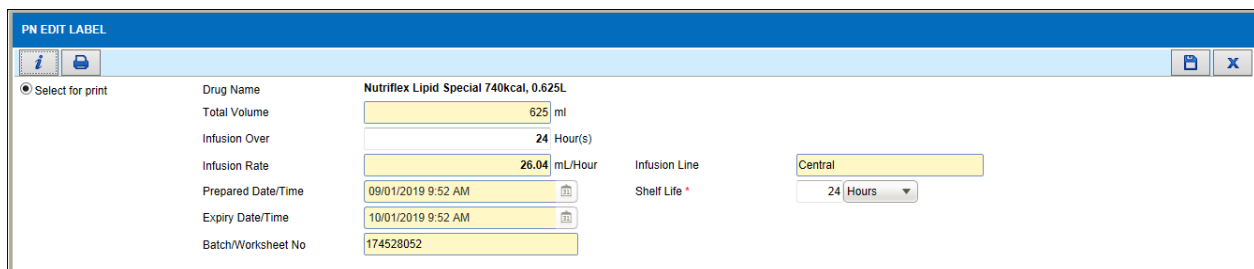
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1435kcal, 1.875L	1875 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

Figure 4.3-18 PN Preparation

Note

Edit Label

Click on the  button to edit label and 'PN Edit Label' window will display as per Figure 4.3-19.



PN EDIT LABEL

Select for print

Drug Name: Nutriflex Lipid Special 740kcal, 0.625L

Total Volume: 625 ml

Infusion Over: 24 Hour(s)

Infusion Rate: 26.04 mL/Hour

Prepared Date/Time: 09/01/2019 9:52 AM

Expiry Date/Time: 10/01/2019 9:52 AM

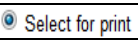


Batch/Worksheet No: 174528052

Infusion Line: Central

Shelf Life: 24 Hours

Figure 4.3-19 PN Preparation

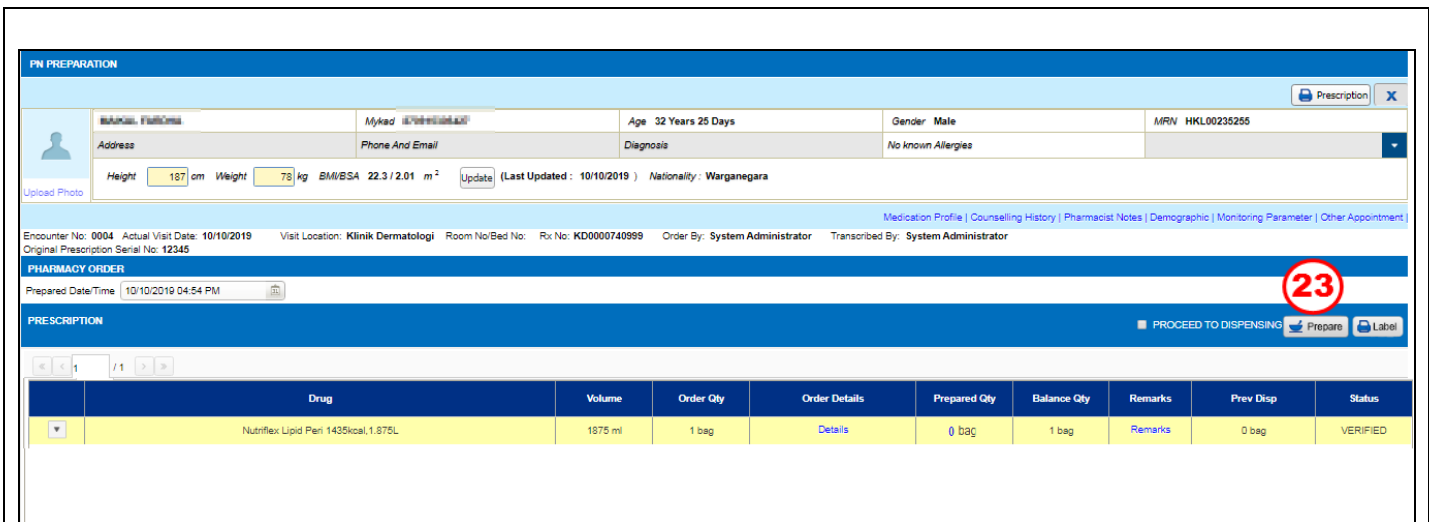
Note

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

- Sample PN Label as per Figure 4.3-20.

HOSPITAL KUALA LUMPUR		
Nutriflex Lipid Special 740kcal, 0.625L		
NAME : MAMAL FARIDAH		
ID NO : 87871000-07		
AGE : 32 Years 01 Months 06 Days		
MRN : HKL00235255	WARD/BED NO: Klinik Dermatologi	
Total 625 ml/bag		
Content	/ kg	/ bag
Protein (g)	0.46	36
Dextrose (g)	1.15	90
Lipid (g)	0.32	25
Sodium (mmol)	0.44	34
Potassium (mmol)	0.31	24
Calcium (mmol)	0.03	2.7
Magnesium (mmol)	0.03	2.7
Phosphate (mmol)	0.13	10
Chloride (mmol)	0.38	30
Acetate (mmol)	0.38	30
Trace Element (ml)	0	0
Vitamins (ml)	0	0
Calories (kcal)	9.49	740
Osmolarity (mOsm/l)	19.81	1545
Admin Date/Time :		
Infusion Rate	26.04 mL/Hrs	
Infusion Over	24 Hrs	
Batch No :	Expiry Date : 22/10/2019	Price : RM
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 48 hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 4.3-20 Sample PN Label



PN PREPARATION

Prescription X

Mykad: 12345678901234567890 Age: 32 Years 25 Days Gender: Male MRN: HKL00235255

Address: Phone And Email: Diagnosis: No known Allergies

Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m² Update (Last Updated: 10/10/2019) Nationality: Warganegara

Encounter No: 0004 Actual Visit Date: 10/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000740999 Order By: System Administrator Transcribed By: System Administrator

Original Prescription Serial No: 12345

PHARMACY ORDER

Prepared Date/Time: 10/10/2019 04:54 PM

PRESCRIPTION

PROCEED TO DISPENSING Prepare Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1435kcal, 1.875L	1875 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

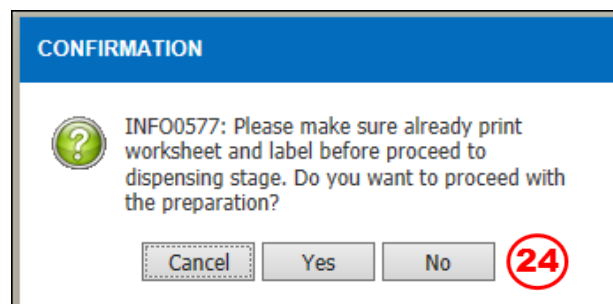
Figure 4.3-21 Sample PN Label

STEP 23

Click on the  button to prepare PN order

Note

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



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 4.3-22 Confirmation Alert Message

STEP 24

Click on the  button to confirm prepare order

PN DISPENSING

Prescription

Address: MyKad: Age: 32 Years 25 Days Gender: Male I/RN: HKL00235255

Phone And Email: Diagnosis: No known Allergies

Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m² Update (Last Updated: 10/10/2019) Nationality: Warganegara

Encounter No: 0004 Actual Visit Date: 10/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000740999 Order By: System Administrator Transcribed By: System Administrator

Original Prescription Serial No: 12345

PHARMACY ORDER

Dispensed To: Dispensed Date and Time: 09/01/2019 10:27:43 AM Remarks:

Dispensed At: Pharmacy Counter Collected By:


PRESCRIPTION

Release/Discard Label Dispense

Drug	Volume	Order Qty	Order Details	Prepared Qty	Prev Disp	Balance Qty	Remarks	Status	Complete
Nutriflex Lipid Special 740kcal, 0.625L	625 ml	1 bag	Details	1 bag	0 bag	1 bag	Remarks	PREPARED	<input type="checkbox"/>

Figure 4.3-23 PN Dispensing

STEP 25

Click on the  button and alert message will be displayed as per Figure 4.3-24

STEP 26

Click on the  button to confirm prepare order

CONFIRMATION

CONF0064: Do you want to dispense now?

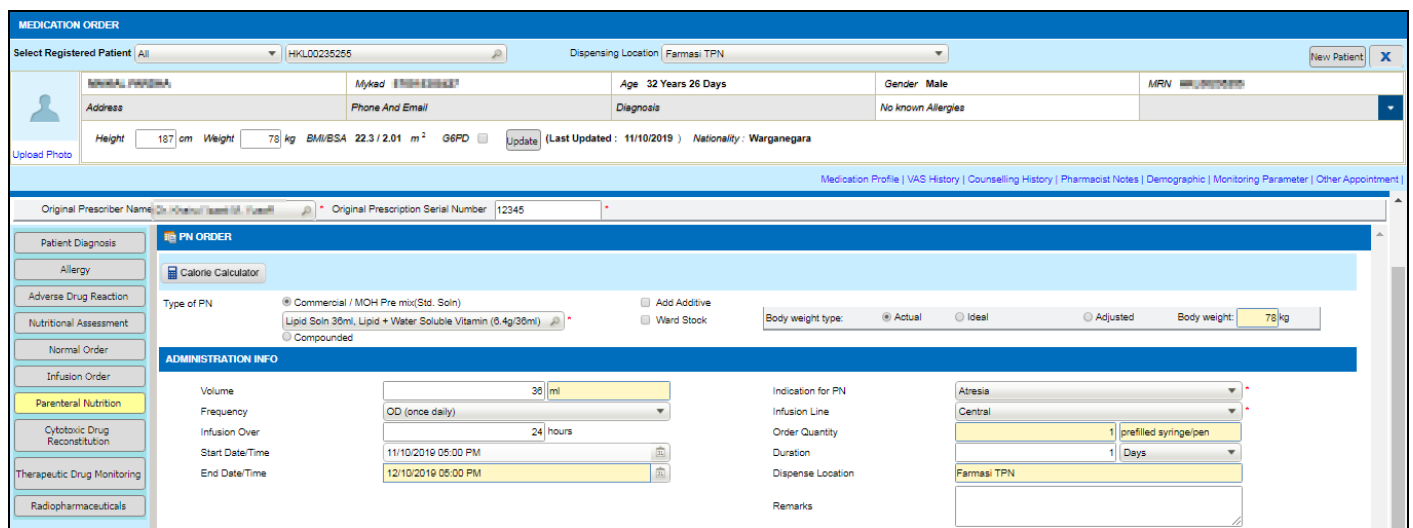
Cancel Yes No

Figure 4.3-24 Confirmation Alert Message

Note

User can do **Release/Discard** Order at dispensing activity stage.

4.4 Commercial/MOH Pre Mix (Std. Soln) Add Additive



MEDICATION ORDER

Select Registered Patient: All | HKL00235255 | Dispensing Location: Farmasi TPN | New Patient X

Patient Details:
 Name: MYKAD, PANDIA | MyKad: 810101010101010101 | Age: 32 Years 26 Days | Gender: Male | MRN: 000000000000000000
 Address: | Phone And Email: | Diagnosis: | No known Allergies
 Height: 187 cm | Weight: 78 kg | BMI/BSA: 22.3 / 2.01 m² | G6PD: | Update (Last Updated: 11/10/2019) | Nationality: Warganegara

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

Original Prescriber Name: Dr. Khairul Anwar | Original Prescription Serial Number: 12345

PN ORDER

Calorie Calculator

Type of PN: ☒ Commercial / MOH Pre mix (Std. Soln) | ☐ Add Additive | ☐ Ward Stock | ☐ Compounded | Body weight type: ☒ Actual | ☐ Ideal | ☐ Adjusted | Body weight: 78 kg

ADMINISTRATION INFO

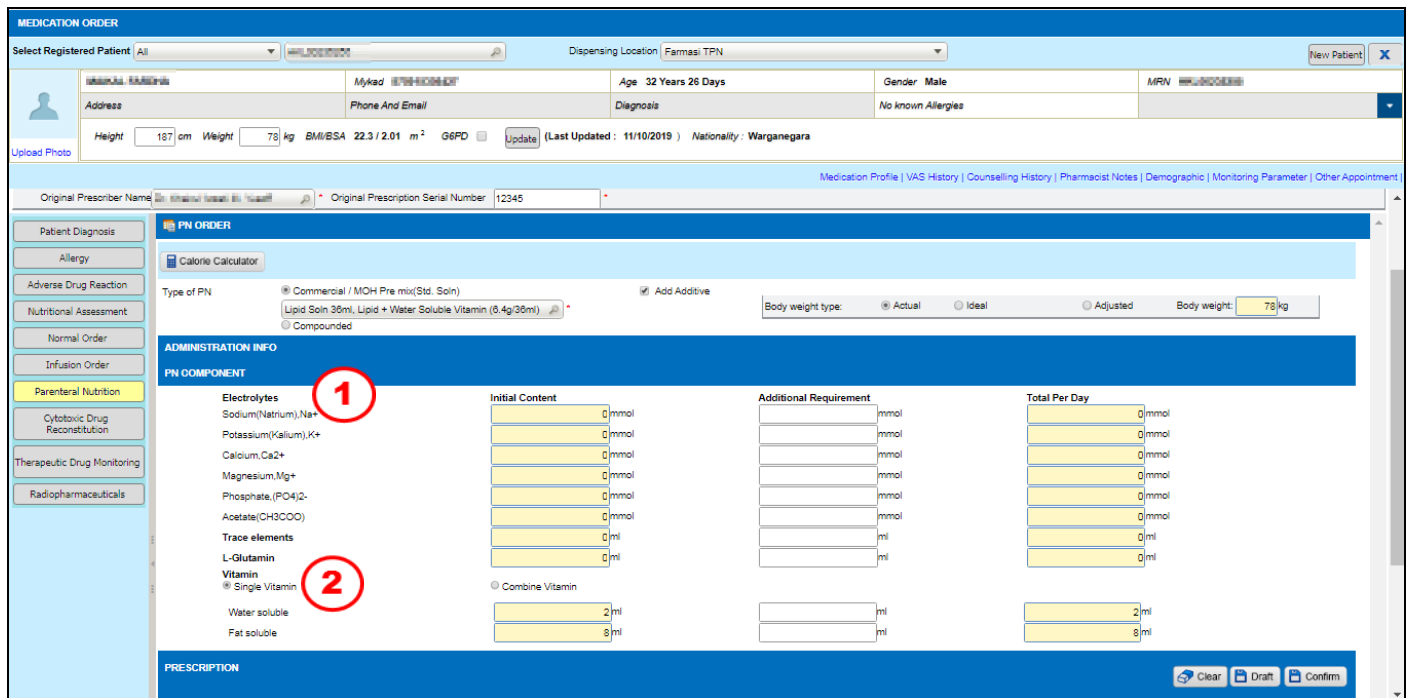
Volume: 38 ml | Frequency: OD (once daily) | Indication for PN: Atresia
 Infusion Over: 24 hours | Infusion Line: Central
 Start Date/Time: 11/10/2019 05:00 PM | Order Quantity: 1 | Duration: 1 | Days
 End Date/Time: 12/10/2019 05:00 PM | Dispense Location: Farmasi TPN
 Remarks:

Figure 4.4-1 Medication Order

‘Commercial Add Additive’ function allows user to order ready made product with additional PN component

Note

- Repeat **STEP 1 – STEP 5** at section 4.3. Commercial/MOH Pre mix (Std Soln).
- Select product and check on the ☒ ‘Add Additive’ checkbox.
- Select product and check on the ☒ ‘Ward Stock’ checkbox.
- Check the ‘Ward Stock’ checkbox if the drug available in ward unit. Only applicable for Inpatient and where pharmacist do not supply medication to the wards
- Repeat **STEP 6 – STEP 12** at section 4.3. Commercial/MOH Pre mix (Std Soln)



MEDICATION ORDER

Select Registered Patient: [All] [Patient Name] Dispensing Location: [Farmasi TPN] [New Patient] X

Patient Details: [Name], MyKad: [ID], Age: 32 Years 26 Days, Gender: Male, MRN: [ID]

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

Height: 187 cm, Weight: 78 kg, BMI/BSA: 22.3 / 2.01 m², G6PD: [Status], Update (Last Updated: 11/10/2019), Nationality: Warganegara

Original Prescriber Name: [Name], Original Prescription Serial Number: 12345

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

PN ORDER

Calorie Calculator

Type of PN: [Commercial / MOH Pre mix (Std. Soln)] [Add Additive]

Lipid Soln 30ml, Lipid + Water Soluble Vitamin (5.4g/30ml) [Additive]

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

ADMINISTRATION INFO

PN COMPONENT

Electrolytes	Initial Content	Additional Requirement	Total Per Day
Sodium(Natrium),Na+	0 mmol	mmol	0 mmol
Potassium(Kalium),K+	0 mmol	mmol	0 mmol
Calcium,Ca2+	0 mmol	mmol	0 mmol
Magnesium,Mg+	0 mmol	mmol	0 mmol
Phosphate,(PO4)2-	0 mmol	mmol	0 mmol
Acetate(CH3COO)	0 mmol	mmol	0 mmol
Trace elements	0 ml	ml	0 ml
L-Glutamin	0 ml	ml	0 ml
Vitamin			
Single Vitamin			
Combine Vitamin			
Water soluble	2 ml	ml	2 ml
Fat soluble	8 ml	ml	8 ml

PRESCRIPTION [Clear] [Draft] [Confirm]

Figure 4.4-2 Single Vitamin

STEP 1

Enter value of **Electrolytes** that require for patient per day

Note

- User need to enter total electrolytes required for patient per day.
- All value must be more than per bag ordering.
- All value in all **Per Bag (Per Ordering)** field will be automatically default by system.

STEP 2

Select ☒ **Single Vitamin** radio button

Note

- Water soluble** and **Fat soluble** field will be automatically displayed as per Figure 4.4-3.
- Enter value of **Water soluble** and **Fat soluble**.



Vitamin

☒ Single Vitamin ☐ Combine Vitamin

Water soluble: 2 ml

Fat soluble: 8 ml

Figure 4.4-3 Single vitamin

Or

Select ☐ **Combine Vitamin** radio button

Note

Vitamin(Water and Fat soluble) field will be automatically displayed as per Figure 4.4-4.

Vitamin
☐ Single Vitamin ☒ Combine Vitamin

Water and Fat Soluble ml ml ml

Figure 4.4-4 Combine vitamin

PN COMPONENT			
	Initial Content	Additional Requirement	Total Per Day
Electrolytes			
Sodium(Natrium),Na+	<input type="text" value="0"/> mmol	<input type="text"/> mmol	<input type="text" value="0"/> mmol
Potassium(Kalium),K+	<input type="text" value="0"/> mmol	<input type="text"/> mmol	<input type="text" value="0"/> mmol
Calcium,Ca2+	<input type="text" value="0"/> mmol	<input type="text"/> mmol	<input type="text" value="0"/> mmol
Magnesium,Mg+	<input type="text" value="0"/> mmol	<input type="text"/> mmol	<input type="text" value="0"/> mmol
Phosphate,(PO4)2-	<input type="text" value="0"/> mmol	<input type="text" value="1"/> mmol	<input type="text" value="1"/> mmol
Acetate(CH3COO)	<input type="text" value="0"/> mmol	<input type="text"/> mmol	<input type="text" value="0"/> mmol
Trace elements			
L-Glutamin	<input type="text" value="0"/> ml	<input type="text"/> ml	<input type="text" value="0"/> ml
Vitamin			
<input checked="" type="radio"/> Single Vitamin <input type="radio"/> Combine Vitamin			
Water soluble	<input type="text" value="2"/> ml	<input type="text"/> ml	<input type="text" value="2"/> ml
Fat soluble	<input type="text" value="8"/> ml	<input type="text"/> ml	<input type="text" value="8"/> ml

PRESCRIPTION Clear Draft Confirm 3

Figure 4.4-5 Medication Order


STEP 3

Click on the Confirm button to confirm record order and alert message will be appeared as per Figure 4.4-6

Note

- Click on the Draft button to save prescription as a draft and the alert message as below will appear. Click Yes as Figure 4.4-6 and then click OK as Figure 4.4-7.


CONFIRMATION

 CONF0151: Are you sure you want to save?

Yes No

Figure 4.4-6 Confirmation Alert Message

INFORMATION

 INFO0679: Record has been saved successfully

OK

Figure 4.4-7 Information Alert Message

- Click on the  button as per Figure 4.4-5 to clear data in order details.

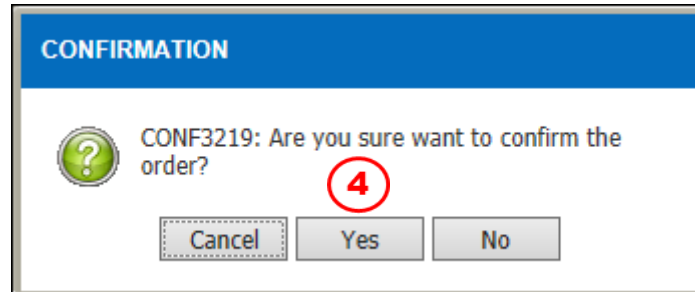
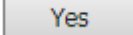
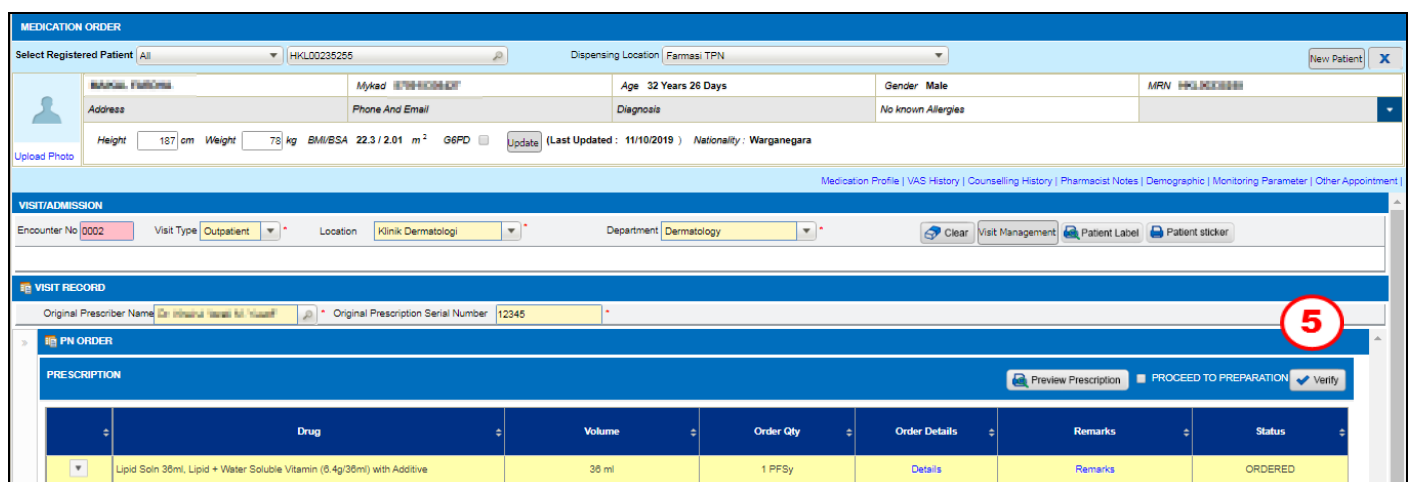


Figure 4.4-8 Information Alert Message

STEP 4

Click on the  button to confirm ordered saved and to verify PN Order screen will be appeared as per Figure 4.4-9



MEDICATION ORDER

Select Registered Patient: All HKL00235255 Dispensing Location: Farmasi TPN New Patient X

Patient Information:
 Mykad: MYKAD-123456789 Age: 32 Years 26 Days Gender: Male MRN: HPL000000
 Address: Phone And Email: Diagnosis: No known Allergies
 Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m² G6PD: Update (Last Updated: 11/10/2019) Nationality: Warganegara

VISIT/ADMISSION
 Encounter No: 0002 Visit Type: Outpatient Location: Klinik Dermatologi Department: Dermatology Clear Visit Management Patient Label Patient sticker


VISIT RECORD
 Original Prescriber Name: Dr. Ahmad Fauzi bin Yusoff Original Prescription Serial Number: 12345

PN ORDER (5)
 PRESCRIPTION Preview Prescription PROCEED TO PREPARATION Verify

Drug	Volume	Order Qty	Order Details	Remarks	Status
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml) with Additive	36 ml	1 PFSy	Details	Remarks	ORDERED

Figure 4.4-9 PN Order : Verify

STEP 5

Click on the  button to verify the order and alert message will be displayed as per Figure 4.4-10

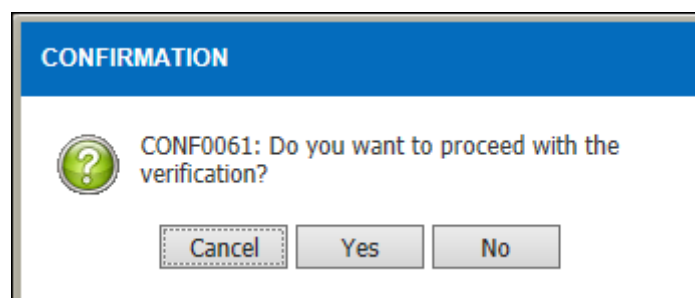
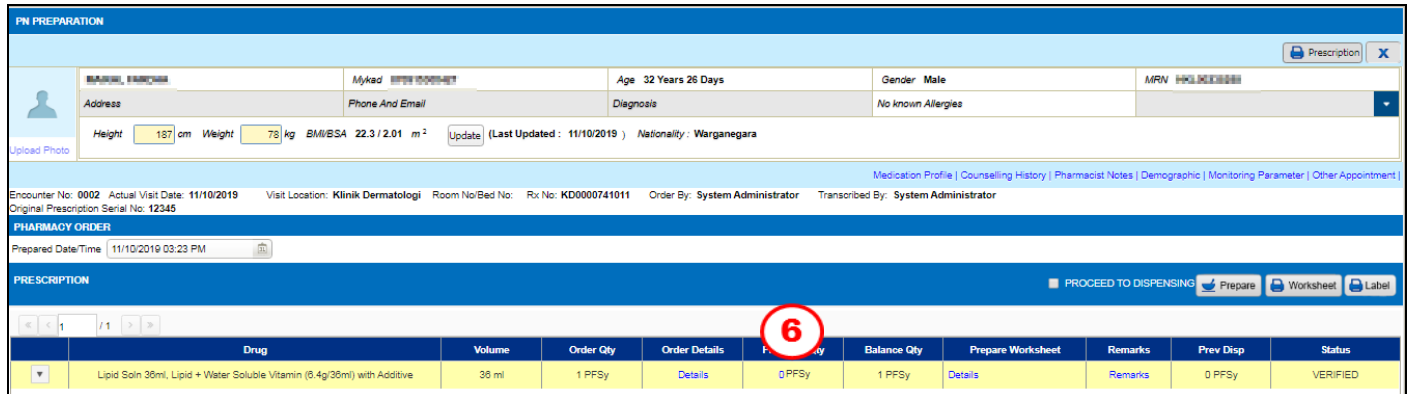


Figure 4.4-10 Confirmation Alert Message

Note

- Click on the button to confirm the verification.
- Verified order will be flowed to preparation stage.



PN PREPARATION

Prescription X

Mykad: Age: 32 Years 26 Days Gender: Male MRN:

Address: Phone And Email: Diagnosis: No known Allergies

Height: cm Weight: kg BMI/BSA: 22.3 / 2.01 m² Update (Last Updated: 11/10/2019) Nationality: Warganegara

Upload Photo

Encounter No: 0002 Actual Visit Date: 11/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000741011 Order By: System Administrator Transcribed By: System Administrator

Original Prescription Serial No: 12345

PHARMACY ORDER

Prepared Date/Time: 11/10/2019 03:23 PM

PRESCRIPTION

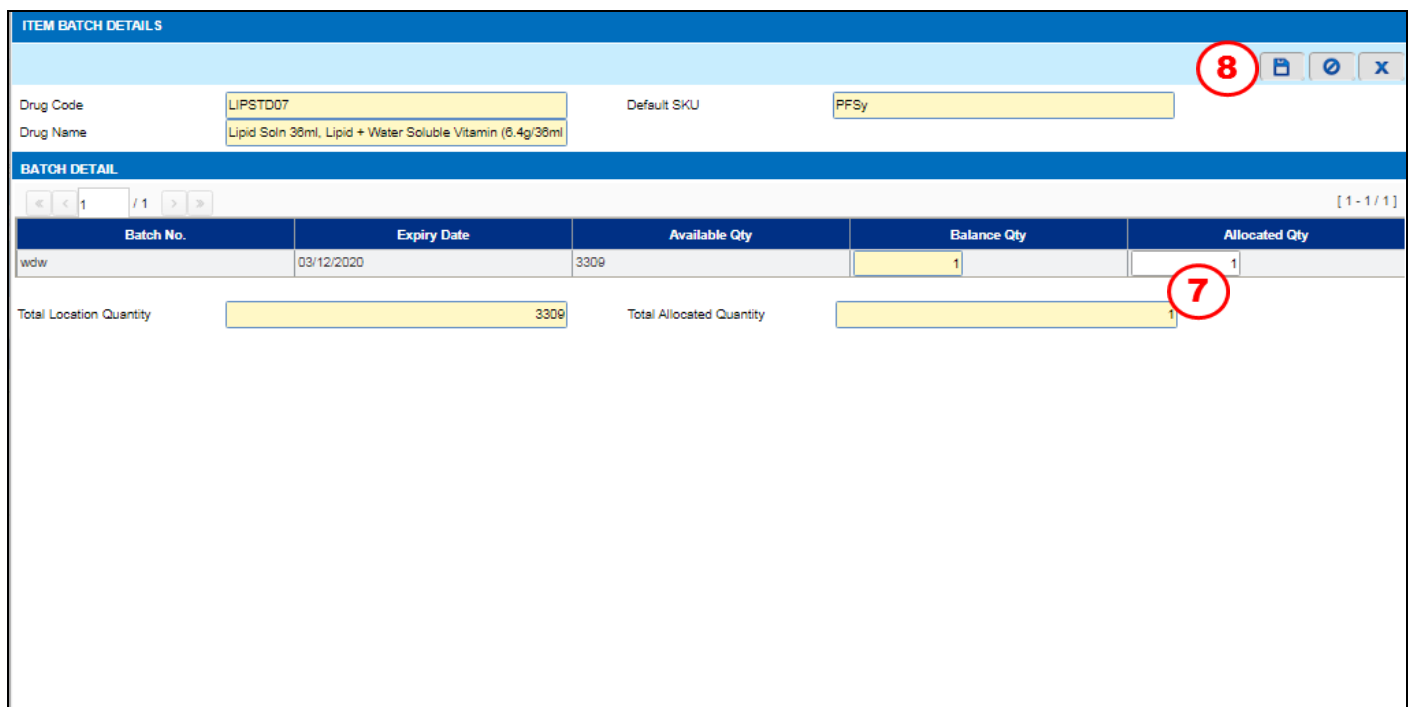
PROCEED TO DISPENSING Prepare Worksheet Label

Drug	Volume	Order Qty	Order Details	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (5.4g/36ml) with Additive	36 ml	1 PFSy	Details	1 PFSy	Details	Remarks	0 PFSy	VERIFIED

Figure 4.4-11 PN Preparation

STEP 6

Click on the link to allocate quantity and 'Item Batch Details' screen will be displayed as per Figure 4.4-12



ITEM BATCH DETAILS

Drug Code: LIPSTD07 Default SKU: PFSy

Drug Name: Lipid Soln 36ml, Lipid + Water Soluble Vitamin (5.4g/36ml)

BATCH DETAIL

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
wdw	03/12/2020	3309	1	1

Total Location Quantity: 3309 Total Allocated Quantity: 1

Figure 4.4-13 Item Batch Details

STEP 7

Enter **Allocated Qty**

STEP 8

Click on the button to save record

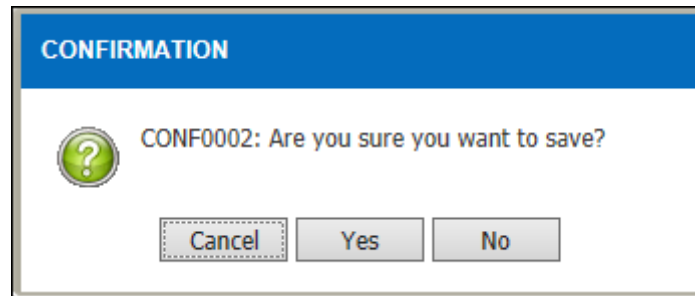
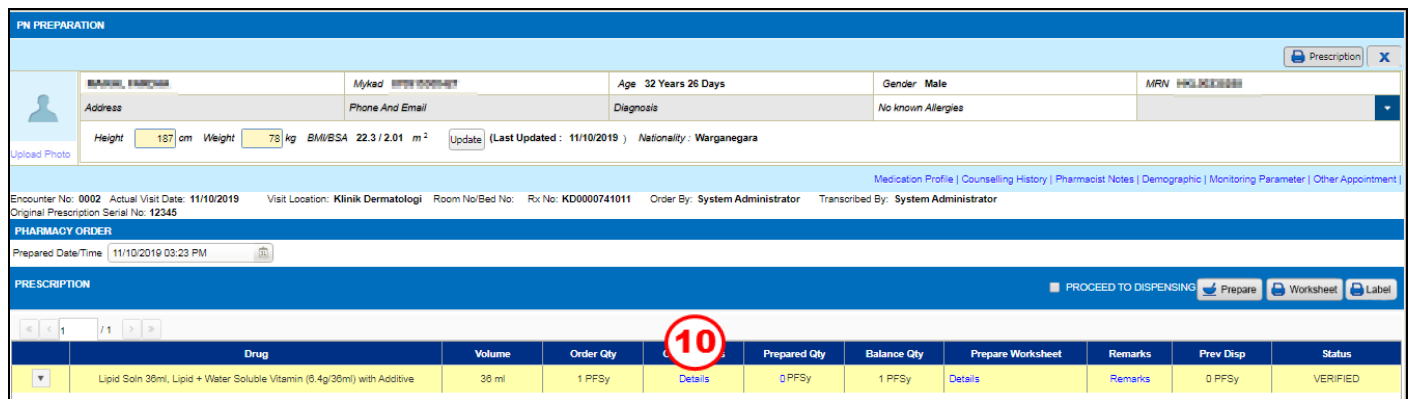


Figure 4.4-14 Confirmation Alert Message

STEP 9

Click on the  button to confirm save



The PN PREPARATION screen displays patient information, pharmacy order details, and a prescription table. The patient information section includes fields for Mykad, Age (32 Years 26 Days), Gender (Male), MRN, Address, Phone And Email, Diagnosis, No known Allergies, Height (157 cm), Weight (75 kg), BMI/BSA (22.3 / 2.01 m²), and Nationality (Warganegara). The pharmacy order section shows the Prepared Date/Time (11/10/2019 03:23 PM). The prescription table has columns for Drug, Volume, Order Qty, Prepared Qty, Balance Qty, Prepare Worksheet, Remarks, Prev Disp, and Status. The first row of the table shows "Lipid Soln 30ml, Lipid + Water Soluble Vitamin (5.4g/30ml) with Additive" with a volume of 30 ml, order quantity of 1 PFSy, and status of VERIFIED. A red circle with the number 10 is placed over the "Details" link in the "Order Qty" column.

Figure 4.4-15 PN Preparation

STEP 10

Click on the **Prepare Worksheet**  button to prepare worksheet as per Figure 4.4-16

PREPARE WORKSHEET

Intervention ☐ Auto Allocation ☐ Print Close

DETAIL

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

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

Trace elements
 ml
Acetate mmol
L-Glutamin ml
Phosphate,(PO4)2- mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Sodium Glycero-phosphate 20ml Injection	1	1 amp	1amp	0	2.57	0	1	2	0	0	0	0
Trace Element - Paediatric (Peditrace) 10mL Inj	1	1 amp	1amp	0	0.04	Trace Elements						
	0			0	0	Combine Vitamin (Water & Fat Soluble)						
	0			0	0	Water Soluble Vitamins						
	0			0	0	Fat Soluble Vitamins						
	0			0	0	L-Glutamin						
Total Preparation	2			0	1305 mOsmol/L	0	1	2	0	0	0	0
					Content/L	0	0	0	0	0	0	0

Calculate

Figure 4.4-16 Prepare Worksheet

Note

- Click and Select the drug from drop down and **Macronutrient**, **Vitamin** field and **Electrolytes** field display the quantity to be added into the bag.
- Click on the Calculate button to calculate PN content value.
- Volume (ml)**, **Order Quantity**, **Calorie (kcal)**, **Osmolrity(mOsmol)**, **Content** and **Total Preparation** will be automatically calculated and displayed by system as per Figure 4.4-17.
- Calorie(kcal)** will be added together with the additives amount

PREPARE WORKSHEET

Intervention ☐ Auto Allocation ☐ Print Close

DETAIL

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

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


Trace elements
 ml
Acetate mmol
L-Glutamin ml
Phosphate,(PO4)2- mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Sodium Glycero-phosphate 20ml Injection	1	1 amp	1amp	0	2.57	0	1	2	0	0	0	0
Trace Element - Paediatric (Peditrace) 10mL Inj	1	1 amp	1amp	0	0.04	Trace Elements						
	0			0	0	Combine Vitamin (Water & Fat Soluble)						
	0			0	0	Water Soluble Vitamins						
	0			0	0	Fat Soluble Vitamins						
	0			0	0	L-Glutamin						
Total Preparation	2			0	1305 mOsmol/L	0	1	2	0	0	0	0
					Content/L	0	0	0	0	0	0	0

Calculate

Figure 4.4-17 Prepare Worksheet

STEP 11

Click on the  button and confirmation pop up will appear as in figure 4.4-18

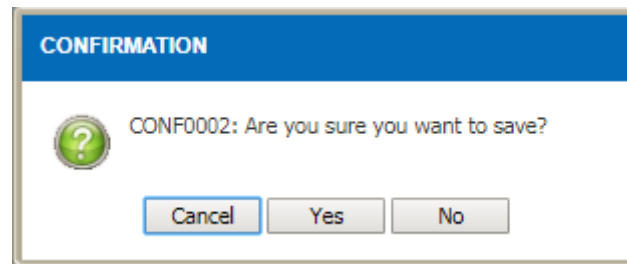
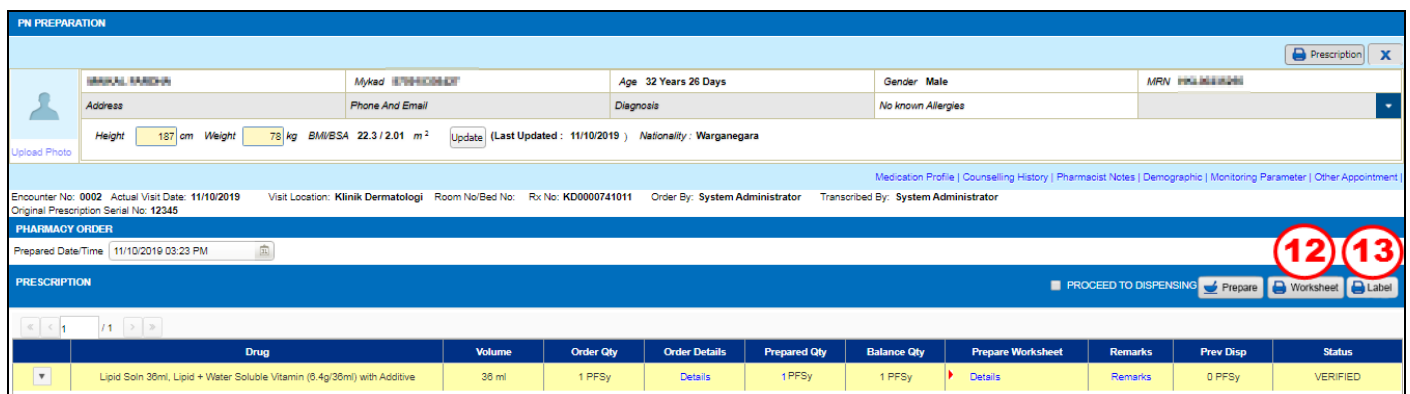


Figure 4.4-19 Confirmation Alert Message

Note

Click on the  button to save record



The screenshot shows the "PN PREPARATION" interface. At the top, there's a patient information section with fields for Name, Mykad, Age, Gender, and MRN. Below this is a section for Address, Phone And Email, Diagnosis, and No known Allergies. Further down, there are fields for Height, Weight, BMI/BSA, and an Update button. A status bar at the bottom of this section shows "Last Updated: 11/10/2019" and "Nationality: Warganegara".

Below the patient information, there's a section for "PHARMACY ORDER" with fields for Encounter No, Actual Visit Date, Visit Location, Room No/Bed No, Rx No, Order By, and Transcribed By. A "Prepared Date/Time" field is also present.

The main section is titled "PRESCRIPTION" and includes a "PROCEED TO DISPENSING" button. Below this, there's a table with columns: Drug, Volume, Order Qty, Order Details, Prepared Qty, Balance Qty, Prepare Worksheet, Remarks, Prev Disp, and Status. The table contains one row for "Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml) with Additive" with a volume of 36 ml, order quantity of 1 PFSy, and status of VERIFIED.

At the bottom right of the screen, there are three buttons: "Prepare", "Worksheet", and "Label". The "Worksheet" button is circled in red and labeled with the number 12. The "Label" button is also circled in red and labeled with the number 13.

Figure 4.4-20 PN Preparation

STEP 12

Click on the  button to generate worksheet as per Figure 4.4-21

PARENTERAL NUTRITION WORKSHEET
MINISTRY OF HEALTH
HOSPITAL KUALA LUMPUR

Patient Name : ABDUL FATHI	Worksheet : A001-111019
MRN : 111019101	Prepared Date/Time : 11/10/2019 03:23 PM
Ward/Bed No : Klinik Dermatologi	Prescription # : KD0000741011
Age : 32 Years 26 Days	
Gender : Male	
Body Weight : 78 kg	

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml)	36	1 bag	wdw	-
Sodium Glycero-phosphate 20ml Injection	1	1 ampoule	12LH21	1 mmol
Trace Element - Paediatric (Peditrace) 10mL Inj	1	1 ampoule	12KKL99	1 ml
TPN Volume Bag	38	1 Bag		



Figure 4.4-21 Sample PN Worksheet

STEP 13

Click on the  button to edit label and PN Edit Label window will display as per Figure 4.4-22.

PN EDIT LABEL

☒ Select for print

Drug Name	Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml) with	
Product Volume	36 ml	
Ordered Volume	36 ml	
Infusion Over	24	Hour(s)
Infusion Rate	1.58	mL/Hour
Prepared Date/Time	11/10/2019 3:23 PM	
Expiry Date/Time	12/10/2019 3:23 PM	
Batch / Worksheet No	A001-111019	


Infusion Line
 Shelf Life *

Central
 24 Hours

Figure 4.4-22 PN Edit Label


Note

Edit Label

- Select the  **Select for print** radio button to print label.
- User is allowed to edit **Infusion Over**, **Date Prepared** and **Shelf Life** field.
- **Expiry Date** will be automatically displayed after enter the **Shelf Life** field.
- **Drug Name**, **Total Volume**, **Infusion Rate** and **Batch No** will be automatically displayed by system.

HOSPITAL KUALA LUMPUR		
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4		
NAME : [REDACTED]		
D NO : [REDACTED]		
AGE : 32 Years 26 Days		
MRN : HKL00235255	WARD/BED NO: Klinik Dermatologi	
Product Volume	38	ml/bag
Ordered	38	ml/bag
Content	/ kg	/ bag
Protein (g)	0	0
Dextrose (g)	0	0
Lipid (g)	0.08	6.4
Sodium (mmol)	0.03	2
Potassium (mmol)	0	0
Calcium (mmol)	0	0
Magnesium (mmol)	0	0
Phosphate (mmol)	0.01	1
Chloride (mmol)	0	0
Acetate (mmol)	0	0
Trace (ml)	0.01	1
Vitamins (ml)	0.13	10
Osmolarity (mOsm/l)	0.88	68.68
L-Glutamin (g)	0	0
Admin Date/Time :		
Infusion Rate	1.58	mL/Hrs
Infusion Over	24	Hrs
Prepared Date	11/10/2019 3:23 PM	
Worksheet ID :	Expiry Date :	Price : RM
A001-111019	12/10/2019	
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 24 Hours)		
Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 4.4-23 PN Label



Mykad: [REDACTED]

Age: 32 Years 26 Days

Gender: Male

MRN: [REDACTED]

Address: [REDACTED]

Phone And Email: [REDACTED]

Diagnosis: [REDACTED]

No known Allergies

Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m²

Update (Last Updated: 11/10/2019) Nationality: Warganegara

Encounter No: 0002 Actual Visit Date: 11/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000741011 Order By: System Administrator Transcribed By: System Administrator

Original Prescription Serial No: 12345

PHARMACY ORDER

Prepared Date/Time: 11/10/2019 03:47 PM

PRESCRIPTION

PROCEED TO DISPENSING

Prepare Worksheet Label

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (5.4g/36ml) with Additive	36 ml	1 PFSy	Details	1 PFSy	1 PFSy	Details	Remarks	0 PFSy	VERIFIED

Figure 4.4-24 PN Preparation

STEP 14

Click on the  button to prepare PN order

Note

- Click on the **Yes** button to dispense order.
- User can **Hold/Resume** Order.
- User can **Release/Discard** order at Dispensing activity.
- When release batch, drug and PN bag quantity will be returned back to inventory. When discard batch, drug and PN bag quantity will be deducted from inventory.
- Once drug already released or discarded, drug will be displayed back in Preparation screen for re-allocation of new batch qty.

4.5 Compounded (Adult)

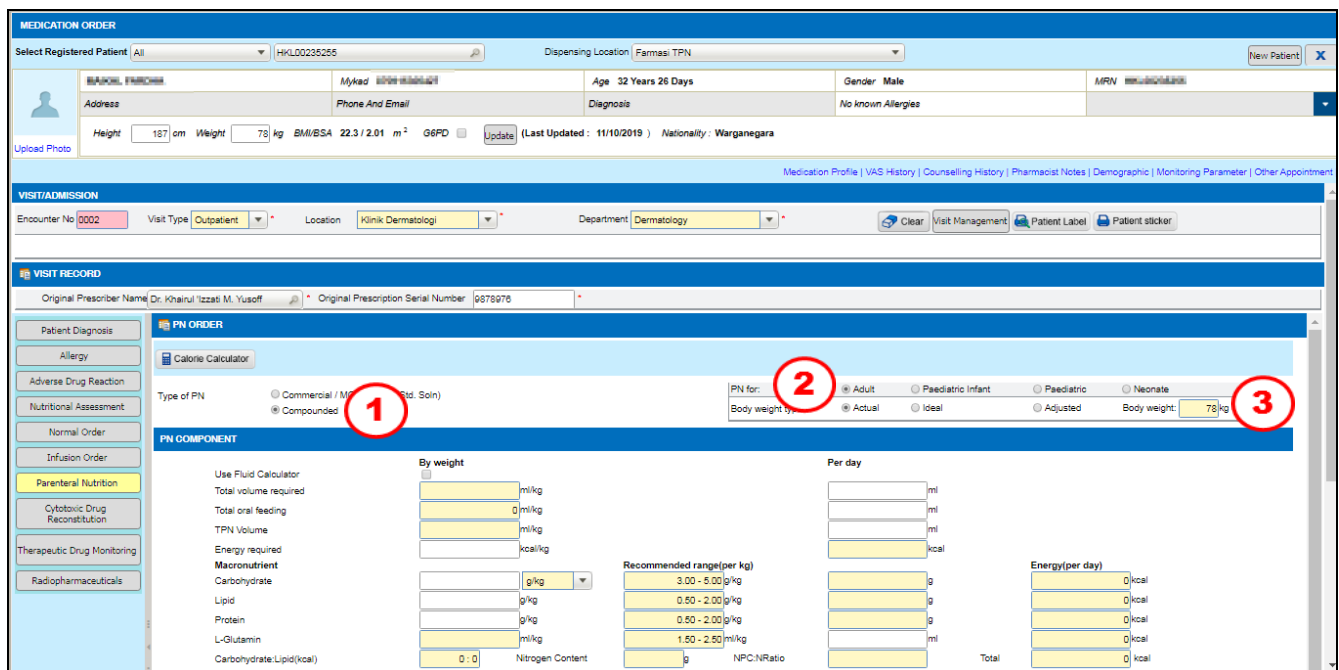


Figure 4.5-1 Medication Order

PN Compounded allow user to order compounded PN with customized nutrition based on patient requirement.

STEP 1

Select on **Compounded** radio button for 'Type of PN'

STEP 2

Select on **Adult** radio button for 'PN For'

STEP 3

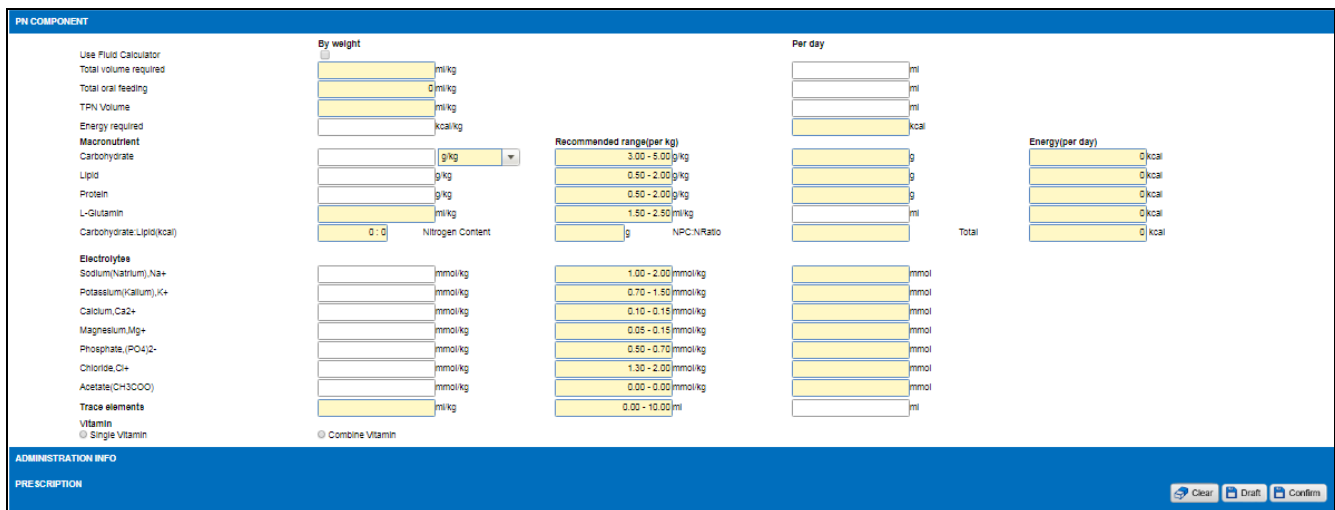
Select on the 'Body weight' type radio button to use for calculation either as:

- Actual

- Ideal
- Adjusted

Note

By default Body weight type show the **Actual** body weight of the patient. **Value for Body Weight (kg)** will change base on selected **Body Weight type**.



The screenshot shows the 'PN COMPONENT' form with the following sections:

- PN COMPONENT**
 - Use Fluid Calculator: ☒
 - Total volume required: ml/kg
 - Total oral feeding: ml/kg
 - TPN Volume: ml/kg
 - Energy required: kcal/kg
 - Macronutrient: g/kg
 - Carbohydrate: g/kg
 - Lipid: g/kg
 - Protein: g/kg
 - L-Glutamin: ml/kg
 - Carbohydrate:Lipid(kcal): g/kg
 - Electrolytes: mmol/kg
 - Sodium(Na⁺): mmol/kg
 - Potassium(K⁺): mmol/kg
 - Calcium(Ca²⁺): mmol/kg
 - Magnesium(Mg²⁺): mmol/kg
 - Phosphate(PO₄): mmol/kg
 - Chloride(Cl⁻): mmol/kg
 - Acetate(CH₃COO⁻): mmol/kg
 - Trace elements: mmol/kg
 - Vitamin: mmol/kg
 - Single Vitamin: mmol/kg
- Recommended range(per kg)**
 - Carbohydrate: 3.00 - 5.00 g/kg
 - Lipid: 0.50 - 2.00 g/kg
 - Protein: 0.50 - 2.00 g/kg
 - L-Glutamin: 1.50 - 2.50 ml/kg
 - Electrolytes: 1.00 - 2.00 mmol/kg
 - Sodium(Na⁺): 0.70 - 1.50 mmol/kg
 - Potassium(K⁺): 0.10 - 0.15 mmol/kg
 - Calcium(Ca²⁺): 0.05 - 0.15 mmol/kg
 - Magnesium(Mg²⁺): 0.50 - 0.70 mmol/kg
 - Chloride(Cl⁻): 1.30 - 2.00 mmol/kg
 - Acetate(CH₃COO⁻): 0.00 - 0.00 mmol/kg
 - Trace elements: 0.00 - 10.00 mmol/kg
- Per day**
 - Total volume required: ml
 - Total oral feeding: ml
 - TPN Volume: ml
 - Energy required: kcal
 - Carbohydrate: g
 - Lipid: g
 - Protein: g
 - L-Glutamin: ml
 - Carbohydrate:Lipid(kcal): g
 - Electrolytes: mmol
 - Sodium(Na⁺): mmol
 - Potassium(K⁺): mmol
 - Calcium(Ca²⁺): mmol
 - Magnesium(Mg²⁺): mmol
 - Phosphate(PO₄): mmol
 - Chloride(Cl⁻): mmol
 - Acetate(CH₃COO⁻): mmol
 - Trace elements: mmol
 - Vitamin: mmol
 - Single Vitamin: mmol
- Energy(per day)**
 - Carbohydrate: kcal
 - Lipid: kcal
 - Protein: kcal
 - L-Glutamin: kcal
 - Carbohydrate:Lipid(kcal): kcal
 - Electrolytes: kcal
 - Sodium(Na⁺): kcal
 - Potassium(K⁺): kcal
 - Calcium(Ca²⁺): kcal
 - Magnesium(Mg²⁺): kcal
 - Phosphate(PO₄): kcal
 - Chloride(Cl⁻): kcal
 - Acetate(CH₃COO⁻): kcal
 - Trace elements: kcal
 - Vitamin: kcal
 - Single Vitamin: kcal
- ADMINISTRATION INFO**
 - PRESCRIPTION:

Figure 4.5-2 PN Component

Note

PN Component

- Once 'Use Fluid Calculator' checkbox is selected, system will auto calculate the 'Total Volume required' based on the body weight.
- User can enter 'Total Oral feeding' volume per day (if any) and system will auto calculate the 'Total oral feeding' per kg and 'TPN Volume'.
- TPN Volume on 'By Weight' (in ml/kg) will be auto calculate and TPN Volume on 'Per Day' (in ml) field editible.
- TPN Volume which is edited value (in ml) will impact to the final bag volume required which is same value will be displayed.
- If changing the value 'Total volume required' or 'Total Oral Feeding', edited 'TPN Volume' value will recalculate back based on existing calculation
- Enter value for **Energy required By Weight (kcal/kg)**.
- Value **Per day** will automatically calculate and display after enter the **Energy required By Weight (kcal/kg)**.

Macronutrient

- Enter value of the **Macronutrient** that applicable for the **PN Component**.
- All entered value must between the **Recommended Range (per kg)**. System still allow if not between recommended range.

All value **Per day** and **Energy(per day)** will automatically calculate and display.

- **L-Gutamin** is an optional function. Value of **By weight** and **Energy(per day)** will automatically display.
- Value of **Carbohydrate:Lipid(kcal) Content, Nitrogen** and **NPC:Ratio** will automatically calculate and display.

Electrolytes

- Enter value of the **Electrolytes** that applicable for the **PN Component**.

- All entered value must between the **Recommended Range (per kg)**. System still allow if not between recommended range.

- **Chloride ,Cl⁻** and **Acetate (CH₃COO)** is optional function.
- All value **Per day** will automatically calculate and display.
- Enter value of the **Trace elements Per day**.
- Value **By Weight** will automatically calculate and display after enter the **Trace elements Per day** value.

Vitamin

☒ Single Vitamin ☐ Combine Vitamin

Water soluble ml ml ml

Fat soluble ml ml ml

Figure 4.5-3 Single Vitamin

Vitamin

☐ Single Vitamin ☒ Combine Vitamin

Water and Fat Soluble ml ml ml

Figure 4.5-4 Combine Vitamin

Note

- Select either **Single Vitamin** or **Combine Vitamin** radio button.
- Vitamin have 2 types vitamin:
 - **Single Vitamin**
 - **Combine Vitamin**
- If user select **Single Vitamin** radio button; **Water soluble** and **Fat soluble** field will automatically display by system as per Figure 4.5-3.
- If user select **Combine Vitamin** radio button; **Vitamin (Water and Fat Soluble)** field will automatically display by system as per Figure 4.5-4.

ADMINISTRATION INFO			
Volume	3000 ml	Indication for PN	Bowel fistulas
Frequency	OD	Infusion Line	Central
Infusion Over	24 hours	Order Quantity	1 BAG
Start Date/Time	11/10/2019 05:00 PM	Dispense Location	Farmasi TPN
End Date/Time	12/10/2019 05:00 PM	Remarks	

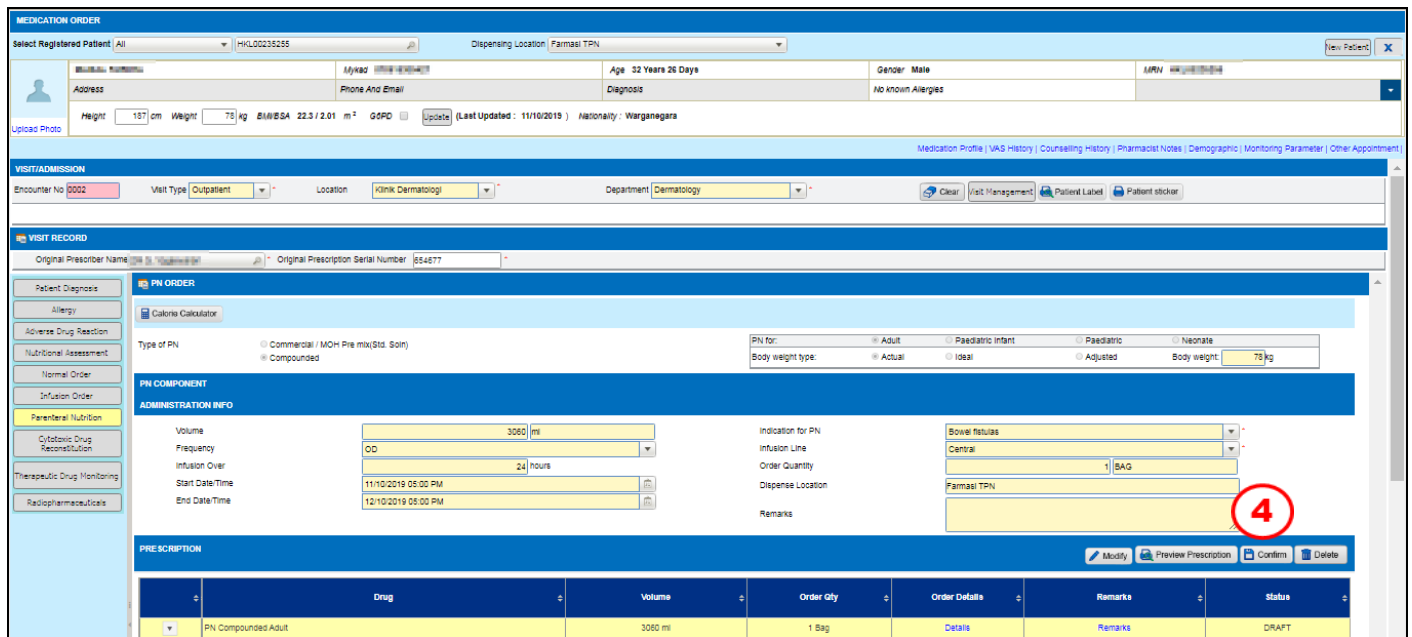
PRESCRIPTION

Clear Draft Confirm

Figure 4.5-5 Administration Info

Note

- **Volume** will be automatically displayed by system and user is not allow to change at this field.
- **Infusion Line** will be automatically default to **Central** but user is allow to change at this field and select type of **Infusion Line** from the dropdown box.
- **Frequency** field will be automatically displayed and user is not allow to change this field.
- Default value for:
 - **Frequency** : OD (daily)
 - **Order Qty** : 1 Bag
- **Start Date/Time** will be automatically default to current date but still can be change by the user if applicable.
- **End Date/Time** will be displayed according to duration product given.
- **Infusion Over** will be automatically default to 24 hours but user is allow to change at this field.
- Select **Indication for PN** from the dropdown box.
- **Dispense Location** will be automatically default by system.
- Enter **Remarks** if applicable.



MEDICATION ORDER

Select Registered Patient: All | HXL00235255 | Dispensing Location: Farmasi TPN | View Patient

Patient Information: Mykad: 9999-9999-9999 | Age: 32 Years 26 Days | Gender: Male | MRN: 99999999999999999999
Address: | Phone And Email: | Diagnosis: | No known Allergies
Height: 187 cm | Weight: 75 kg | BMI/BSA: 22.5 / 2.01 m² | GPOD: | Update (Last Updated: 11/10/2019) | Nationality: Warganegara

VISIT/ADMISSION: Encounter No: 0002 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology | Clear | Visit Management | Patient Label | Patient sticker

VISIT RECORD: Original Prescriber Name: Dr. [Name] | Original Prescription Serial Number: 054577

PN ORDER: Caloria Calculator | Type of PN: Commercial / MOH Pre mix (Std. Soln) | PN for: Adult | Paediatric Infant | Paediatric | Neonate | Body weight type: Actual | Ideal | Adjusted | Body weight: 75 kg


PN COMPONENT: Administration Info
Volume: 3000 ml | Indication for PN: | Bowel status: |
Frequency: OD | Infusion Line: Central
Infusion Over: 24 hours | Order Quantity: 1 BAG
Start Date/Time: 11/10/2019 05:00 PM | Dispense Location: Farmasi TPN
End Date/Time: 12/10/2019 05:00 PM | Remarks: |

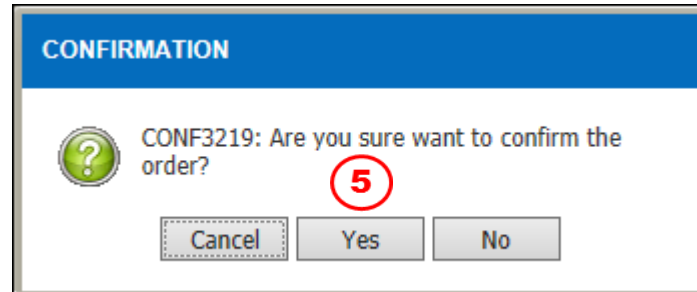
PRESCRIPTION: Modify | Preview Prescription | Confirm | Delete

Drug	Volume	Order Qty	Order Details	Remarks	Status
PN Compounded Adult	3000 ml	1 Bag	Details	Remarks	DRAFT

Figure 4.5-6 Prescription

STEP 4

Click on the  button to confirm record order and alert message will be appeared as per Figure 4.5-7



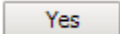
CONFIRMATION

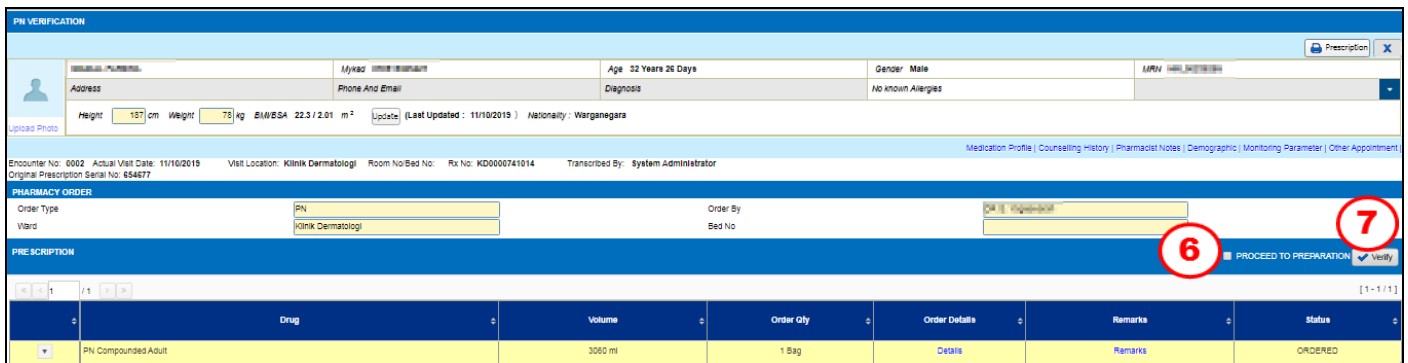
CONF3219: Are you sure want to confirm the order?

Cancel Yes No

Figure 4.5-7 Information Alert Message

STEP 5

Click on the  button to confirm ordered saved and to verify PN Order screen will be appeared as per Figure 4.5-7



PN VERIFICATION

Encounter No: 0002 Actual Visit Date: 11/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000741014 Transcribed By: System Administrator

PHARMACY ORDER

Order Type: PN Order By: Dr. A. Rajendran

PRESCRIPTION

Drug	Volume	Order Qty	Order Details	Remarks	Status
PN Compounded Adult	3050 ml	1 Bag	Details	Remarks	ORDERED

Figure 4.5-8 Prescription

STEP 6

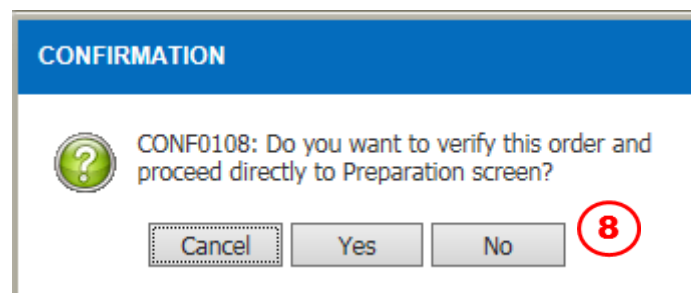
Check the ☒ **PROCEED TO PREPARATION** check box

Note

☒ **PROCEED TO PREPARATION** Button function will allow user to go to directly open preparation screen for each patient record.

STEP 7

Click on the ☒ **Verify** button to verify the order and alert message will be displayed as per Figure 4.5-9



CONFIRMATION

CONF0108: Do you want to verify this order and proceed directly to Preparation screen?

Cancel Yes No

Figure 4.5-9 Information Alert Message

STEP 8

Click on the ☒ **Yes** button to confirm the verification

PN PREPARATION

Encounter No: 0002 Actual Visit Date: 11/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD000741014 Order By: System Administrator Transcribed By: System Administrator

Original Prescription Serial No: 654677

Prepared Date/Time: 11/10/2019 04:22 PM

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

PHARMACY ORDER

Prepared Date/Time: 11/10/2019 04:22 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	3000 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 4.5-10 Pharmacy Order

STEP 9

Click on the **Prepare Worksheet** [Details](#) button to prepare worksheet as per Figure 4.5-10

PREPARE WORKSHEET

Intervention ☒ Auto Allocation ☐

DETAIL

TPN volume: 3000 ml Energy required: 0 kcal Product category: 3 in 1 2 in 1

Macronutrient: Glucose 0 g Vitamin Solution 0 ml Trace elements 0 ml
Lipid 0 g Water soluble 1 ml Acetate 0 mmol
Protein 0 g Fat soluble 1 ml L-Glutamin 0 ml
Electrolytes: Sodium (Na⁺) 0 mmol Calcium, Ca²⁺ 0 mmol Phosphate (PO₄)³⁻ 0 mmol
Potassium (K⁺) 0 mmol Magnesium, Mg²⁺ 0 mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Fat emulsion, SMOFlipid 20% 500ml IV Soln	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amino acid 6.53% (Vaminolact) 500ml IV Soln	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sodium Glycophosphate 20ml injection	0	0	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	0	0	0	0	0	0
Potassium Chloride 10% 10ml injection	0	0	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	0	0
Magnesium Sulphate 50% injection (48.3% 5ml)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trace Element - Paediatric (Pedtrace) 10mL Inj	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vitamin B and C (Soluvit N) in 10 ml Vial	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vitamin A, D, E, K (Vitalipid N infant) 10ml Inj	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sterile Water for injection 500mL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Preparation	0			0	0	0	0	0	0	0	0	0	0	0	0

Calculate

NPC:N Ratio

TOTAL content of Calcium and Phosphate: 0 mmol/100ml

TOTAL content of Magnesium and Calcium: 0 mmol/100ml

Figure 4.5-11 Prepare Worksheet

Note

- Click and Select the drug from drop down option and **Macronutrient**, **Vitamin** field and **Electrolytes** field display the quantity to be added into the bag.
- Click on the [Calculate](#) button to calculate PN content value.
- Volume (ml)**, **Order Quantity**, **Calorie (kcal)**, **Osmolarity(mOsmol)**, **Content** and **Total Preparation** will be automatically calculated and displayed by system.

PREPARE WORKSHEET

Intervention ☒ Auto Allocation ☐ Save

TPN volume: 2420 ml Energy required: 1896 kcal Product category: 3 in 1, 2 in 1

Macronutrient: Glucose 165 g Vitamin Solution 1 ml Trace elements 1 ml
Lipid 110 g Water soluble 1 ml Acetate 55 mmol
Protein 55 g Fat soluble 2 ml L-Glutamin 33 ml

Electrolytes: Sodium (Na⁺) 55 mmol Calcium (Ca²⁺) 55 mmol Phosphate (PO₄) 55 mmol
Potassium (K⁺) 55 mmol Magnesium (Mg²⁺) 55 mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolality (mOsmol)	Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Fat emulsion, SMOFLipid 20% 500ml IV Soln	850	2 bott	0 bott	850	159.5	110	0	0	0	0	0	0	0	0	0
Dextrose 50% IV soln 500ml	330	1 bott	0 bott	828	917.4	0	165	0	0	0	0	0	0	0	0
Amino acid 5.53% (Aminosol) 500ml IV Soln	842.27	2 bott	0 bott	220	412.71	0	0	55	0	0	0	0	0	0	0
Sodium Acetate 2mmol/ml injection	27.5	2 amp	0 amp	0	110	0	0	0	55	0	55	0	0	0	0
Sodium Glycophosphate 20ml injection	55	3 amp	0 amp	0	141.33	0	0	0	0	55	110	0	0	0	0
Potassium Chloride 1g/10ml injection	0	0	0	0	0	0	0	0	0	0	0	55	0	0	0
Calcium Gluconate 10% injection	41.04	8 amp	0 amp	0	110.83	0	0	0	0	0	0	0	55	0	54.99
Magnesium Sulphate 50% injection (49.3% 5ml)	243.36	25 amp	0 amp	0	180.82	0	0	0	0	0	0	0	0	55	0
Trace Element - Paediatric (Pedtrace) 10ml Inj	302.5	31 amp	0 amp	0	1391.5	0	0	0	0	0	0	0	0	0	0
Trace Element - Paediatric (Pedtrace) 10ml Inj	1	1 amp	0 amp	0	0.04	0	0	0	0	0	0	0	0	0	0
Vitamin B and C (P-Tivite) 10ml Inj	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vitamin A, D, E, K (vitapipid N infant) 10ml Inj	1	1 pair	0 pair	0	0	0	0	0	0	0	0	0	0	0	0
Ni2+-L-alanyl-L-glutamine 20% (Dipeptivan) 100ml	2	1 amp	0 amp	0	0.6	0	0	0	0	0	0	0	0	0	0
Ni2+-L-alanyl-L-glutamine 20% (Dipeptivan) 100ml	33	1 bott	0 bott	25.4	30.39	0	0	0	0	0	0	0	0	0	0
Water For Injection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Preparation	2420.57			2051.4	1414.37 mOsmol/L	110	165	55	55	55	165	55	55	55	54.99

Calculate

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

TOTAL content of Magnesium and Calcium: Calcium + Magnesium: mmol/100ml

Figure 4.5-12 Prepare Worksheet

Note

- Check on the ☒ Auto Allocation checkbox.
- Click on the button to save record.
- Allocated Quantity** will be automatically calculated and displayed by system after click on the save button as per Figure 4.5-12.

PN PREPARATION

Prescription ☒ Save

Address: 11/10/2019 04:22 PM

Height: 157 cm Weight: 75 kg BMI/BSA: 22.3 / 2.01 m² Update (Last updated: 11/10/2019) Nationality: Warganegara

Encounter No: 0002 Actual Visit Date: 11/10/2019 Visit Location: Klinik Dermatologi Room No/Bed No: Rx No: KD0000741014 Order By: System Administrator Transcribed By: System Administrator

Original Prescription Serial No: 654677

PHARMACY ORDER

Prepared Date/Time: 11/10/2019 04:22 PM

PRESCRIPTION

PROCEED TO DISPENSING ☒ Prepare

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Adult	3020 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 4.5-13 PN Preparation

STEP 10

Click on the button to print Worksheet

ADULT PARENTERAL NUTRITION WORKSHEET
MINISTRY OF HEALTH
HOSPITAL

Patient Name :
 MPN :
 Ward/Bed No : Ward Oncology 3CD
 Age : 76 Years 10 Months 12 Days
 Gender : Male
 Body Weight : 55 kg

Worksheet : A001-021119
 Prepared Date/Time : 02/11/2019 12:38 PM
 Prescription # : RT3CD0000125534

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Amino acid 6.53% (Vaminolaat) 500ml IV Soln	842.27	2 bottle	NA	55 g
Dextrose 50% IV soln 500ml	150	1 bottle	NA	75 g
Sterile Water for Injection 500mL	1020.16	3 bottle	NA	NA
Fat emulsion, SMOFlipid 20% 500ml IV Soln	350	1 bottle	NA	70 g
Sodium Chloride 20% Inj	57.31	6 ampoule	NA	220 mmol
Sodium Glycero-phosphate 20ml Injection	12	1 ampoule	NA	12 mmol
Magnesium Sulphate 50% Injection (48.3%/5mL)	3.75	1 ampoule	DMHKL328	7.5 mmol
Potassium Chloride 1g/10ml Injection	22.39	3 ampoule	NA	30 mmol
Calcium Gluconate 10% Injection	22.12	3 ampoule	17388011	5 mmol
Traae Element - Paediatric (Peditraae) 10mL Inj	10	1 ampoule	NA	10 ml
Vitalipid and Soluvit Injection (Adult)	10	10 ml	NA	10 mmol
TPN Volume Bag	2500	1 Bag		


Worksheet Generated By : Date : 02/11/2019
 Worksheet and Label Checked By : Supervised By :
 Bag Prepared By :
 Final Product Checked By :

Figure 4.5-14 Sample PN Worksheet

Note

Sample of PN Worksheet as per Figure 4.5-14.

Edit Label

- Click on the  button to edit label and **PN Edit Label** window will display as per Figure 4.5-15.
- Select the ☒ **Select for print** radio button to print label.
- User is allowed to edit **Infusion Over**, **Date Prepared** and **Shelf Life** field.
- Expiry Date** will be automatically displayed after enter the **Shelf Life** field.

Drug Name, **Total Volume**, **Infusion Rate** and **Batch No** will be automatically displayed by system.

PN EDIT LABEL

☒ Select for print

Drug Name: PN Compounded Neonate

Total Volume: 106.8 ml

Infusion Over: 24 Hour(s)

Infusion Rate: 4.45 mL/Hour

Prepared Date/Time: 05/11/2019 10:14 AM

Expiry Date/Time: 06/11/2019 10:14 AM

Batch / Worksheet No: P001-051119

Infusion Line: Central

Shelf Life: 24 Hours

Figure 4.5-15 PN Edit Label

HOSPITAL KUALA LUMPUR		
PARENTERAL NUTRITION (Neonate)		
NAME : [REDACTED]		
ID NO : [REDACTED]		
AGE : 24 Days		
MRN : HKL0306482	WARD/BED NO: Special Care Nursery (Neonatal ICU)	
Total Volume 106.8 ml/bag		
Content	/ kg	/ bag
Protein (g)	0	0
Dextrose (g)	0	0
Lipid (g)	0	0
Sodium (mmol)	3.01	2.68
Potassium (mmol)	1.51	1.34
Calcium (mmol)	1.2	1.07
Magnesium (mmol)	0.15	0.13
Phosphate (mmol)	1.51	1.34
Chloride (mmol)	1.51	1.34
Acetate (mmol)	0	0
Trace Element (ml)	1	0.89
Vitamins (ml)	0	0
Osmolarity (mOsm/l)	116.99	104.12
L-Glutamin (g)	0	0
Admin Date/Time :		
Infusion Rate	4.45 mL/Hrs	
Infusion Over	24 Hrs	
Prepared Date	05/11/2019 10:14 AM	
Worksheet ID :	Expiry Date :	Price : RM
P001-051119	06/11/2019	
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 24 Hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 4.5-16 Sample PN Label

PN PREPARATION

Encounter No: 0001 Actual Admission Date: 16/07/2019 Visit Location: Wad SW26 (Perubatan) Room No/Bed No: Rx No: SW26000740763 Order By: Farmail HKL Transcribed By: System Administrator
Original Prescription Serial No: 22

PHARMACY ORDER
Prepared Date/Time: 11/10/2019 04:29 PM

PRESCRIPTION

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Paediatric	2420 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 4.5-17 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 No

Figure 4.5-18 Confirmation Alert Message

STEP 12

Click on the  button to confirm prepare order

PN DISPENSING

Encounter No: 2137 Actual Admission Date: 25/02/2019 Visit Location: Wad NW23 (Perubatan) Room No/Bed No: Rx No: NW230000740526 Transcribed By: System Administrator
Original Prescription Serial No: wdg

PHARMACY ORDER
Dispensed To: Pharmacy Counter Dispensed Date and Time: 11/10/2019 04:44:22 PM Remarks:
Dispensed At: Pharmacy Counter Collected By:
Remarks:
Status: PREPARED

PRESCRIPTION

Drug	Volume	Order Qty	Order Details	Prepared Qty	Prev Disp	Balance Qty	Remarks	Status	Complete
PN Compounded Adult	2600 ML	1 Bag	Details	1 Bag	0 Bag	1 Bag	Remarks	PREPARED	<input type="checkbox"/>

Figure 4.5-19 PN Dispensing

STEP 13

Click on the  button and alert message will be displayed as per Figure 4.5-20

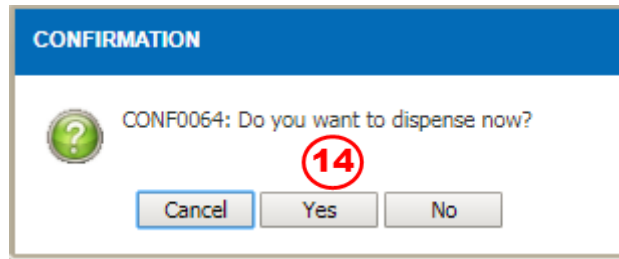


Figure 4.5-20 Confirmation Alert Message

STEP 14

Click on the  button to confirm prepare order

Note

- User can **Hold/Resume** Order and **Release/Discard** order at dispensing activity.
- When release batch, drug and PN bag quantity will be returned back to inventory. When discard batch, drug and PN bag quantity will be deducted from inventory.
- Once drug already released or discarded, drug will be displayed back in Preparation screen for re-allocation of new batch qty.

4.6 Compounded (Paediatric)

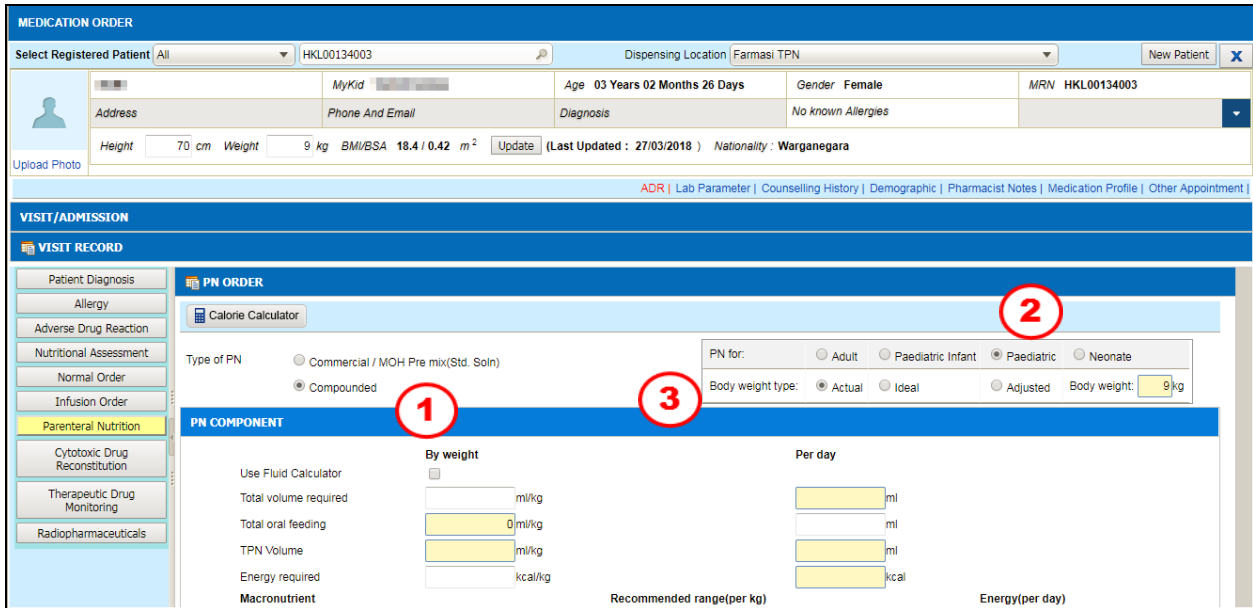


Figure 4.6-1 Medication Order

PN Compounded (Paediatric) allow user to order Parenteral Nutrition for patient between 3 years old to 12 years old.

STEP 1

Select on ☒ **Compounded** radio button for 'Type of PN'

STEP 2

Select on ☒ **Paediatric** radio button for 'PN for'

STEP 3

Select on the 'Body weight type' radio button to use for calculation either as:

- Actual
- Ideal
- Adjusted

PN COMPONENT					
	By weight	Recommended range(per kg)	Per day		Energy(per day)
Use Fluid Calculator	<input checked="" type="checkbox"/>				
Total volume required	<input type="text" value="100"/> ml/kg		<input type="text" value="200"/> ml		
Total oral feeding	<input type="text" value="0"/> ml/kg		<input type="text" value=""/> ml		
TPN Volume	<input type="text" value="100"/> ml/kg		<input type="text" value="200"/> ml		
Energy required	<input type="text" value="48"/> kcal/kg		<input type="text" value="96"/> kcal		
Macronutrient					
Carbohydrate	<input type="text" value="3"/> g/kg	3.00 - 10.50 g/kg	<input type="text" value="6"/> g		<input type="text" value="24"/> kcal
Lipid	<input type="text" value="1"/> g/kg	1.00 - 2.00 g/kg	<input type="text" value="2"/> g		<input type="text" value="18"/> kcal
Protein	<input type="text" value="2"/> g/kg	1.00 - 3.00 g/kg	<input type="text" value="4"/> g		<input type="text" value="16"/> kcal
L-Glutamin	<input type="text" value=""/> ml/kg	0.00 - 0.00 ml/kg	<input type="text" value="0"/> ml		<input type="text" value="0"/> kcal
Carbohydrate:Lipid(kcal)	<input type="text" value="57 : 43"/>	Nitrogen Content	<input type="text" value="1"/> g	NPC:NRatio	<input type="text" value="42 : 1"/>
				Total	<input type="text" value="58"/> kcal
Electrolytes					
Sodium(Natrium),Na+	<input type="text" value="1"/> mmol/kg	1.00 - 3.00 mmol/kg	<input type="text" value="2"/> mmol		
Potassium(Kalium),K+	<input type="text" value="1"/> mmol/kg	1.00 - 3.00 mmol/kg	<input type="text" value="2"/> mmol		
Calcium,Ca2+	<input type="text" value="1"/> mmol/kg	0.50 - 1.25 mmol/kg	<input type="text" value="2"/> mmol		
Magnesium,Mg+	<input type="text" value="0.15"/> mmol/kg	0.15 - 0.25 mmol/kg	<input type="text" value="0.3"/> mmol		
Phosphate,(PO4)2-	<input type="text" value="0.5"/> mmol/kg	0.50 - 1.00 mmol/kg	<input type="text" value="1"/> mmol		
Chloride,Cl+	<input type="text" value="2"/> mmol/kg	2.00 - 5.00 mmol/kg	<input type="text" value="4"/> mmol		
Acetate(CH3COO)	<input type="text" value=""/> mmol/kg	0.00 - 0.00 mmol/kg	<input type="text" value=""/> mmol		
Trace elements	<input type="text" value=""/> ml/kg	0.00 - 15.00 ml	<input type="text" value=""/> ml		
Vitamin					
<input type="radio"/> Single Vitamin					
<input checked="" type="radio"/> Combine Vitamin					
Water and Fat Soluble	<input type="text" value=""/> ml/kg	0.00 - 0.00 ml	<input type="text" value=""/> ml		

Figure 4.6-2 PN Component

Note

By default Body weight type show the **Actual** body weight of the patient. Value for **Body Weight (kg)** will be change base on selected **Body weight** type.

PN Component

- Enter value for **Total volume required per day (ml)**.
- TPN Volume on '**Per Day**' (in ml) will be auto calculate and TPN Volume on '**By Weight**' (in ml/kg) field editeble.
- TPN Volume whis is edited value (in ml) will impact to the final bag volume required which is same value will be displayed.
- If changing the value '**Total volume required**' or '**Total Oral Feeding**', edited '**TPN Volume**' value will recalculate back based on existing calculation
- Enter value for **Energy required By Weight (kcal/kg)**.
- Value **Per day** will automatically calculate and display after enter the **Energy required By Weight (kcal/kg)**.

Macronutrient

- Enter value of the **Macronutrient** that applicable for the **PN Component**.
- All entered value must between the **Recommended Range (per kg)**. User can still proceed if value is not within the recommended range.
- All value **Per day** and **Energy(per day)** will automatically calculate and display.

L-Gutamin is an optional function. Value of **By weight** and **Energy(per day)** will automatically display.

- Value of **Carbohydrate:Lipid(kcal) Content, Nitrogen and NPC:Ratio** will automatically calculate and display.
- Value of **Carbohydrate:Lipid(kcal) Content, Nitrogen and NPC:Ratio** will automatically calculate and display.

Electrolytes

- Enter value of the **Electrolytes** that applicable for the PN Component.
- All entered value must between the **Recommended Range (per kg)**. User can still proceed if value is not within the recommended range.
- **Chloride ,Cl⁺** and **Acetate (CH₃COO)** is optional function.
- All value **Per day** will automatically calculate and display.
- Enter value of the **Trace elements Per day**.
- Value **By Weight** will automatically calculate and display after enter the **Trace elements Per day** value.

Vitamin

☒ Single Vitamin ☐ Combine Vitamin

Water soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml
Fat soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml

Figure 4.6-3 Single Vitamin

Vitamin

☐ Single Vitamin ☒ Combine Vitamin

Water and Fat Soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml
-----------------------	-----------------------------------	----------------------------------	-----------------------------------

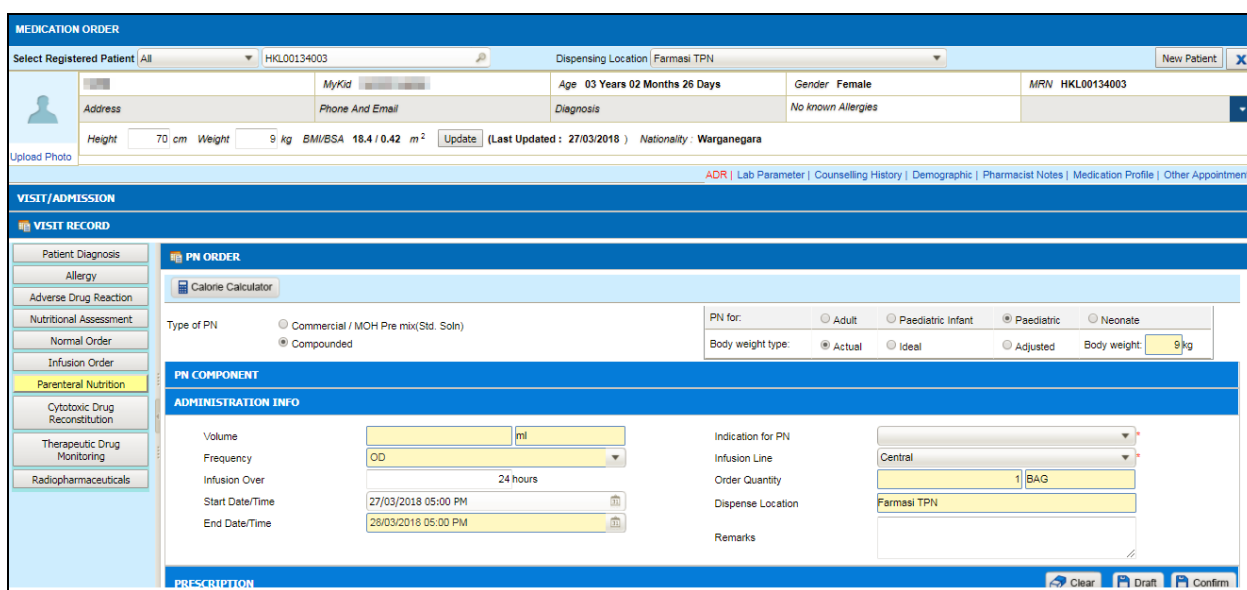
Figure 4.6-4 Combine Vitamin

Note

- Select either **Single Vitamin** or **Combine Vitamin** radio button.
- Vitamin have 2 types vitamin:
 - **Single Vitamin**
 - **Combine Vitamin**

If user select **Single Vitamin** radio button; **Water soluble** and **Fat soluble** field will automatically display by system as per Figure 4.6-3.

- If user select **Combine Vitamin** radio button; **Vitamin(Water and Fat Soluble)** field will automatically display by system as per Figure 4.6-4.



MEDICATION ORDER

Select Registered Patient: All | HKL00134003 | Dispensing Location: Farmasi TPN | New Patient: X

MyKid: [Redacted] | Age: 03 Years 02 Months 26 Days | Gender: Female | M/RN: HKL00134003

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

Height: 70 cm | Weight: 9 kg | BMI/BSA: 18.4 / 0.42 m² | Update (Last Updated: 27/03/2018) | Nationality: Warganegara

Upload Photo

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

VISIT/ADMISSION

VISIT RECORD

Patient Diagnosis: [Redacted]
Allergy: [Redacted]
Adverse Drug Reaction: [Redacted]
Nutritional Assessment: [Redacted]
Normal Order: [Redacted]
Infusion Order: [Redacted]
Parenteral Nutrition: [Redacted]
Cytotoxic Drug Reconstitution: [Redacted]
Therapeutic Drug Monitoring: [Redacted]
Radiopharmaceuticals: [Redacted]

PN ORDER

Calorie Calculator

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

PN for: ☐ Adult ☐ Paediatric Infant ☒ Paediatric ☐ Neonate

Body weight type: ☒ Actual ☐ Ideal ☐ Adjusted | Body weight: 9 kg

PN COMPONENT

ADMINISTRATION INFO

Volume: [Redacted] ml
Frequency: OD
Infusion Over: 24 hours
Start Date/Time: 27/03/2018 05:00 PM
End Date/Time: 28/03/2018 05:00 PM

Indication for PN: [Redacted]
Infusion Line: Central
Order Quantity: 1 BAG
Dispense Location: Farmasi TPN
Remarks: [Redacted]

PRESCRIPTION

Clear Draft Confirm

Figure 4.6-5 Administration Info

Note

- **Volume** will be automatically displayed by system and user is not allow to change at this field.
- **Infusion Line** will be automatically default to **Central** but user is allow to change at this field and select type of **Infusion Line** from the dropdown box.
- **Frequency** field will be automatically displayed and user is not allow to change this field.
- Default value for:
 - **Frequency** : OD (daily)
 - **Order Qty** : 1 Bag
- **Start Date/Time** will be automatically default to current date but still can be change by the user if applicable.
- **End Date/Time** will be displayed according to duration product given.
- **Infusion Over** will be automatically default to 24 hours but user is allow to change at this field.
- Select **Indication for PN** from the dropdown box.
- **Dispense Location** will be automatically default by system.
- **Enter Remarks if applicable**

PN COMPONENT

ADMINISTRATION INFO

Volume	3100 ml	Indication for PN	Encephalopathy (risk for aspiration)
Frequency	OD	Infusion Line	Central
Start Date/Time	19/03/2015 05:00 PM	Duration	1 Days
End Date/Time	20/03/2015 05:00 PM	Infusion Over	24 hours
Order Quantity	1 BAG	Dispense Location	Dispensary
Remarks			


PRESCRIPTION

Preview Prescription Confirm Delete

Drug	Volume	Order Qty	Order Details	Remarks	Status
PN Compounded Paediatric	5200 ml	1 Bag	Details	Remarks	DRAFT

Figure 4.6-6 Prescription

STEP 4

Click on the  button to confirm record order and alert message will be appeared as per Figure 4.6-7

CONFIRMATION

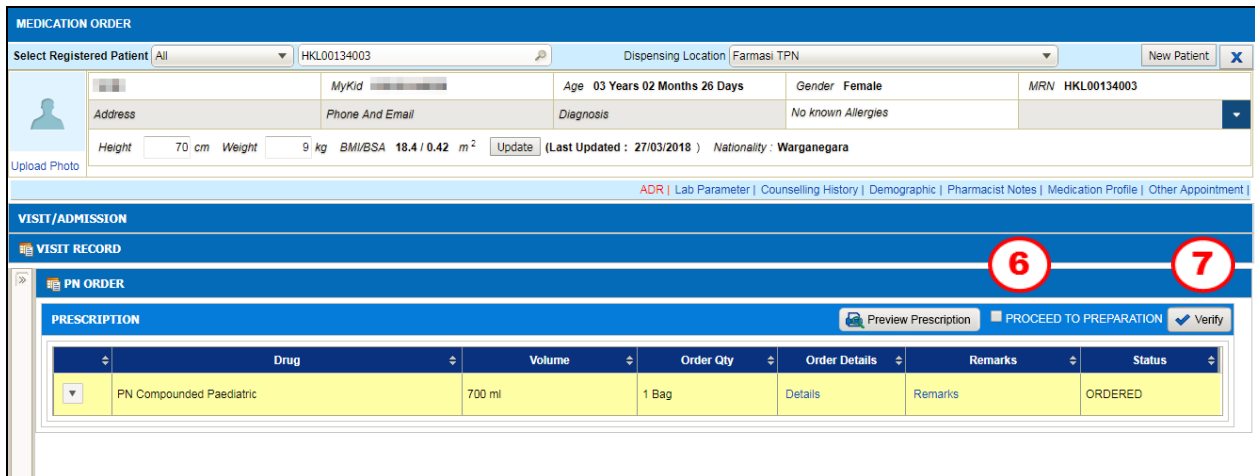
CONF3219: Are you sure want to confirm the order?

Cancel Yes No

Figure 4.6-7 Prescription

STEP 5

Click on the  button to confirm order and to verify PN Order screen will be appeared as per Figure 4.6-8



MEDICATION ORDER

Select Registered Patient: All | HKL00134003 | Dispensing Location: Farmasi TPN | New Patient: X

MyKid: [REDACTED] | Age: 03 Years 02 Months 26 Days | Gender: Female | MRN: HKL00134003

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

Height: 70 cm | Weight: 9 kg | BMI/BSA: 18.4 / 0.42 m² | Update | (Last Updated: 27/03/2018) | Nationality: Warganegara

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

VISIT/ADMISSION

VISIT RECORD

PN ORDER

PRESCRIPTION

Preview Prescription | ☒ PROCEED TO PREPARATION | ☒ Verify

Drug	Volume	Order Qty	Order Details	Remarks	Status
PN Compounded Paediatric	700 ml	1 Bag	Details	Remarks	ORDERED

Figure 4.6-8 Medication Order : Verify

STEP 6

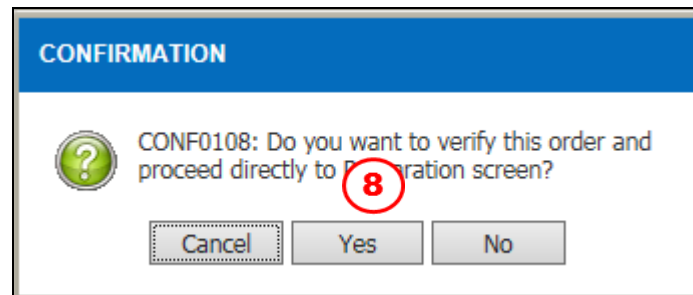
Check the ☒ **PROCEED TO PREPARATION** check box

Note

☒ **PROCEED TO PREPARATION** Function allows user to go to Preparation screen for each patient record.

STEP 7

Click on the ☒ **Verify** button to verify the order and alert message will be displayed as per Figure 4.6-9



CONFIRMATION

CONF0108: Do you want to verify this order and proceed directly to Preparation screen?

Cancel Yes No

Figure 4.6-9 Confirmation Alert Message

STEP 8

Click on the ☒ **Yes** button to confirm the verification and proceed straight to preparation screen

PN PREPARATION

Prescription X

MyKid: [Redacted] Age: 03 Years 02 Months 26 Days Gender: Female MRN: HKL00134003

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

Height: 70 cm Weight: 9 kg BMI/BSA: 18.4 / 0.42 m² Update (Last Updated:) Nationality: Warganegara

Upload Photo

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

Encounter No: 0009 Actual Admission Date: 27/03/2018 Visit Location: Wad NW18B (Perubatan) Room No/Bed No: Rx No: NW18B0000317242 Order By: Transcribed By:

PHARMACY ORDER

Prepared Date/Time: 27/03/2018 02:30 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Paediatric	700 ml	1 bag	Details	1 bag	1 bag	Details 9	Remarks	0 bag	VERIFIED

Figure 4.6-10 PN Preparation

STEP 9

Click on the **Prepare Worksheet** **Details** button to prepare worksheet as per Figure 4.6-10

PREPARE WORKSHEET Intervention Auto Allocation X

TPN volume: 3080 ml Energy required: 0 kcal Product category: 10 3 in 1 2 in 1

Macronutrient: Glucose 3080 g Vitamin Solution: 0 ml Trace elements: 0 ml Lipid Syringe: 0 ml
Lipid: 0 g Water soluble: 1 ml Acetate: 0 mmol Volume Without Lipid: 0 ml
Protein: 0 g Fat soluble: 1 ml Overage volume: 0 ml Lipid Overage Volume: 0 ml

Electrolytes: Sodium (Na⁺)/Na⁺: 0 mmol Calcium (Ca²⁺): 0 mmol Phosphate (PO₄)³⁻: 0 mmol
Potassium (K⁺)/K⁺: 0 mmol Magnesium (Mg²⁺): 0 mmol

Lipid Syringe

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Lipid (g)
Vitamin A, D, E, K (Vitalipid N Infant) 10ml I	1	0	0	0	0	0
Vitamin B and C (Soluvit N) in 10 ml VFI	1	0	0	0	0	0
Fat emulsion, SMOFLipid 20% 500ml IV Sol	0	0	0	0	0	0
Total Preparation	0	0	0	0	0	0

PN Bag (Without lipid)

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Dextrose 50% IV soln 500ml	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amino acid 6.53% (Aminolact) 500ml IV Soln	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sodium Acetate 2mmol/ml injection	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sodium Glycero-phosphate 20ml injection	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sodium Chloride 20% (n)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Potassium Chloride 10% 10ml injection	0	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	0
Magnesium Sulphate 50% injection (48.3% 5ml)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trace Element - Paediatric (Paedtrace) 10mL (n)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sterile Water for injection 500mL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Preparation	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculate

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

Figure 4.6-11 Prepare Worksheet

STEP 10

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

Note

Section A:

Macronutrient, Vitamin and Electrolytes will be automatically displayed by system based on prescription order.

Section B:

Lipid Syringe table

- Volume (ml), Order Quantity, Calorie (kcal), Osmolarity (mOsmol), Lipid and Total Preparation will be

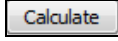
automatically calculated and displayed by system.

- *Lipid Overage function provided.*

STEP 11

Select the product for lipid preparation

STEP 12

Click on the  button to calculate PN content value

Note

All column in Section B will be updated.

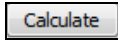
PN Bag (Without Lipid) table

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

STEP 13

Select the product for PN bag preparation

STEP 14

Click on the  button to calculate PN content value

Note

Volume Calorie and **Osmolarity** will be calculated.

Section C:

Overage Volume

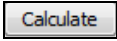
- *Enter the excess amount for PN bag preparation.*

Eg:

Ordered volume for PN bag = 5200ml.

Pharmacy to prepare = 5200ml.

Overage volume PN bag = 20ml.

- Click on the  button on PN Bag table

Lipid Overage Volume

- *Enter excess amount for Lipid Syringe preparation.*

Click on the  button on Lipid Syringe table.

PREPARE WORKSHEET

Intervention ☐ Auto Allocation ☒

DETAIL

TPN volume: 3060 ml

Energy required: 0 kcal

Product category: 3 in 1 @ 2 in 1

Macronutrient: Glucose 0 g, Lipid 0 g, Protein 0 g

Vitamin: Vitamin Solution 0 ml, Water soluble 0 ml, Fat soluble 0 ml

Trace elements: 0 ml

Acetate: 0 mmol

Overage volume: 0 ml

Electrolytes: Sodium(Na)/Na+ 0 mmol, Potassium(K)/K+ 0 mmol

Calcium, Ca2+: 0 mmol

Magnesium, Mg+: 0 mmol

Phosphate, (PO4)3-: 0 mmol

Lipid Syringe: 0 ml

Volume Without Lipid: 0 ml

Lipid Overage Volume: 0 ml

Figure 4.6-12 Prepare Worksheet

STEP 15

Check on the ☒ **Auto Allocation** checkbox

STEP 16

Click on the  button to save record

PREPARE WORKSHEET

Intervention ☐ Auto Allocation ☒

DETAIL

TPN volume: 3060 ml

Energy required: 0 kcal

Product category: 3 in 1 @ 2 in 1

Macronutrient: Glucose 0 g, Lipid 0 g, Protein 0 g

Vitamin: Vitamin Solution 0 ml, Water soluble 0 ml, Fat soluble 0 ml

Trace elements: 0 ml

Acetate: 0 mmol

Overage volume: 0 ml

Electrolytes: Sodium(Na)/Na+ 0 mmol, Potassium(K)/K+ 0 mmol

Calcium, Ca2+: 0 mmol

Magnesium, Mg+: 0 mmol

Phosphate, (PO4)3-: 0 mmol

Lipid Syringe: 0 ml

Volume Without Lipid: 0 ml

Lipid Overage Volume: 0 ml

Lipid Syringe

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Concentration (mEq/ml)	Lipid (g)	
Vitamin A, D, E, K (Vitlipid N Infant) 10ml I.	1		0	0	0	0	Fat Soluble Vitamin
Vitamin B and C (Soluit N) in 10 ml WFI	1		0	0	0	0	Water Soluble Vitamin
Fat emulsion, SMOFLipid 20% 500ml IV Sol.	0		0	0	0	0	Lipid
Total Preparation	0			0		0	

PN Bag (Without lipid)

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Concentration (mEq/ml)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Dextrose 50% IV soln 500ml	0		0	0	0	0	0	0	0	0	0	0	0	0
Amino acid 6.53% (Aminolact) 500ml IV Soln	0		0	0	0	0	0	0	0	0	0	0	0	0
Sodium Acetate 2mmol/ml injection	0		0	0	0	0	0	0	0	0	0	0	0	0
Sodium Glycophosphate 20ml injection	0		0	0	0	0	0	0	0	0	0	0	0	0
Sodium Chloride 20% (n)	0		0	0	0	0	0	0	0	0	0	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 (Pedtrace) 10ml (n)	0		0	0	0	0	0	0	0	0	0	0	0	0
Sterile Water for injection 500ml	0		0	0	0	0	0	0	0	0	0	0	0	0
Total Preparation	0			0		0	0	0	0	0	0	0	0	0

Trace Elements

Water For Injection	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
0	0	0	0	0	0	0	0	0	0

Calculate

NPIC/N Ratio

TOTAL content of Calcium and Phosphate	Calcium + Phosphate	mmol/100ml
0	0	0

Calculate

TOTAL content of Magnesium and Calcium	Calcium + Magnesium	mmol/100ml
0	0	0

Figure 4.6-13 Prepare Worksheet

Note

- Allocated Quantity** column will be automatically calculated and displayed by system as per Figure 4.6-13.
- Untick the ☐ **Auto Allocation** to allocate manually
- Once user click on the **Intervention** button, system will reset the allocated qty to '0', user able to do intervention and re-calculate the worksheet and do allocation again
- User able to allocate manually by click on the alert message will be display as Figure 4.6-14

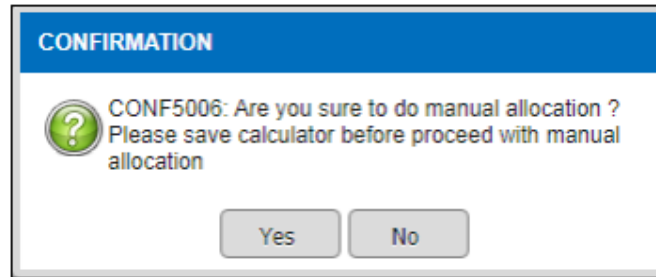
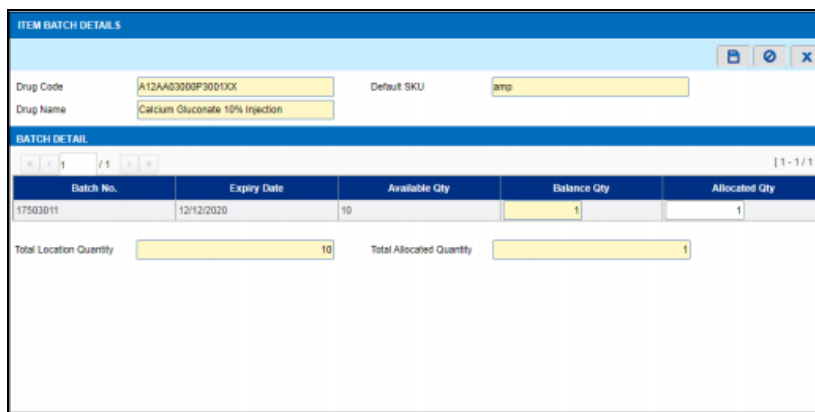


Figure 4.6-14 Confirmation Message

- Click button then item batch details will be display as Figure 4.6-14



ITEM BATCH DETAILS

Drug Code: A12AAG3000F30010X Default SKU: amp

Drug Name: Calcium Gluconate 10% Injection

BATCH DETAIL

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

Total Location Quantity: 10 Total Allocated Quantity: 1

Figure 4.6-15 Item Batch Detail

- Key in allocated quantity and the save the record as per Figure 4.6-15
- Click on the and button to generate worksheet and label as in Compounded Adult

PN PREPARATION

Prescription X

MyKid: [Redacted] Age: 03 Years 02 Months 26 Days Gender: Female MRN: HKL00134003

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

Height: 70 cm Weight: 9 kg BMI/BSA: 18.4 / 0.42 m² Update (Last Updated:) Nationality: Warganegara

Upload Photo

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

Encounter No: 0009 Actual Admission Date: 27/03/2018 Visit Location: Wad NW18B (Perubatan) Room No/Bed No: Rx No: NW18B0000317242 Order By: Transcribed By:

Original Prescription Serial No: 212424

PHARMACY ORDER

Prepared Date/Time: 27/03/2018 02:30 PM

PRESCRIPTION PROCEED TO DISPENSING 17 Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Paediatric	700 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 4.6-16 PN Preparation

STEP 17

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? 18

Cancel Yes No

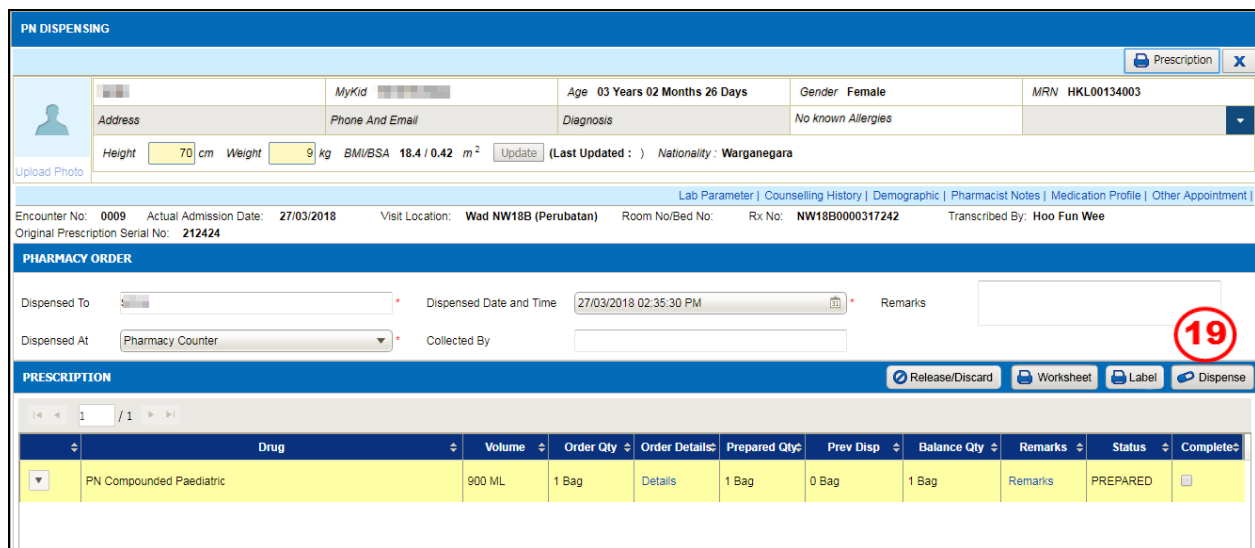
Figure 4.6-17 Confirmation Alert Message

STEP 18

Click on the  button to confirm prepare order

Note

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



PN DISPENSING

Prescription X

MyKid: [Redacted] Age: 03 Years 02 Months 26 Days Gender: Female MRN: HKL00134003

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

Height: 70 cm Weight: 9 kg BMI/BSA: 18.4 / 0.42 m² Update (Last Updated:) Nationality: Warganegara

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

Encounter No: 0009 Actual Admission Date: 27/03/2018 Visit Location: Wad NW18B (Perubatan) Room No/Bed No: Rx No: NW18B0000317242 Transcribed By: Hoo Fun Wee

Original Prescription Serial No: 212424

PHARMACY ORDER

Dispensed To: [Redacted] Dispensed Date and Time: 27/03/2018 02:35:30 PM Remarks: [Redacted]

Dispensed At: Pharmacy Counter Collected By: [Redacted]

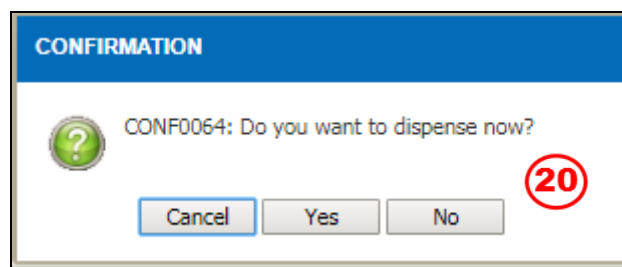
PRESCRIPTION Release/Discard Worksheet Label Dispense

Drug	Volume	Order Qty	Order Details	Prepared Qty	Prev Disp	Balance Qty	Remarks	Status	Complete
PN Compounded Paediatric	900 ML	1 Bag	Details	1 Bag	0 Bag	1 Bag	Remarks	PREPARED	<input type="checkbox"/>

Figure 4.6-18 PN Dispensing

STEP 19

Click on the  button and alert message will be displayed as per Figure 4.6-19



CONFIRMATION

CONF0064: Do you want to dispense now?

Cancel Yes No

Figure 4.6-19 Confirmation Alert Message

STEP 20

Click on the  button to confirm prepare order

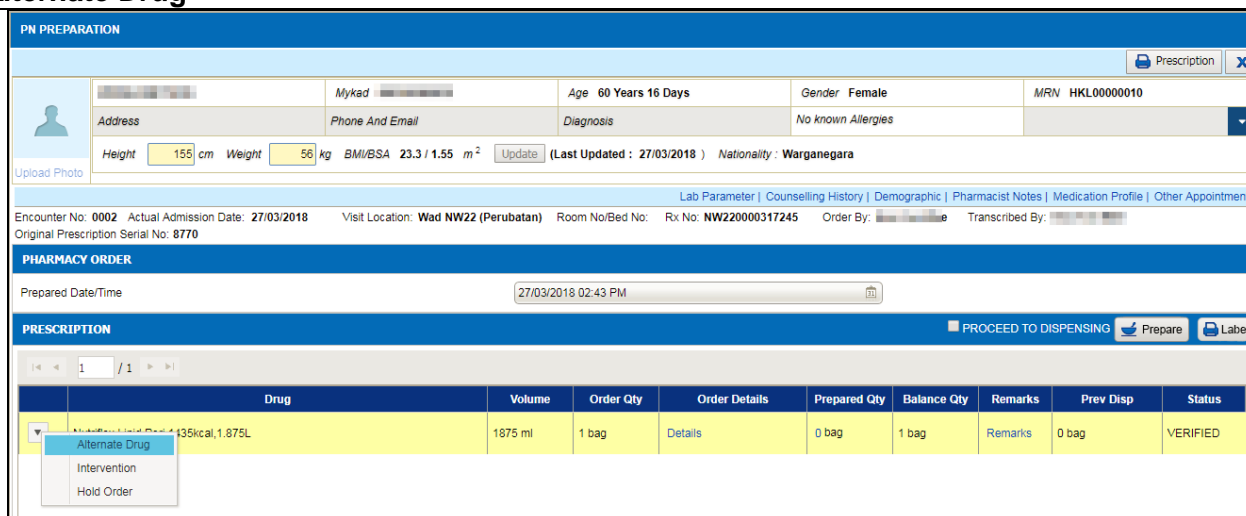
Note

- User only can do **Hold/Resume** Order at dispensing activity.
- When release batch, drug and PN bag quantity will be returned back to inventory. When discard batch, drug and PN bag quantity will be deducted from inventory.
- Once drug already released or discarded, drug will be displayed back in Preparation screen for re-allocation of new batch qty.
- PN Compounded (Paediatric Infant) allow user to order Parenteral Nutrition for patient between 31 days old to 2 years old.
- PN Compounded (Neonate) allow user to order Parenteral Nutrition for patient between 1 day old to 30 days old.
- If PN order is for paediatric, paediatric infant or neonate, product category will default to 2 in 1.

Pediatric Infant or Neonate

Please repeat section 4.6 from **STEP 1** until **STEP 20** for medication order, verify, preparation and dispensing process.

4.7 Alternate Drug



PN PREPARATION

Prescription X

Mykad: [Redacted] Age: 60 Years 16 Days Gender: Female MRN: HKL00000010

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

Height: 155 cm Weight: 56 kg BMI/BSA: 23.3 / 1.55 m² Update (Last Updated: 27/03/2018) Nationality: Warganegara

Upload Photo

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

Encounter No: 0002 Actual Admission Date: 27/03/2018 Visit Location: Wad NW22 (Perubatan) Room No/Bed No: Rx No: NW220000317245 Order By: [Redacted] Transcribed By: [Redacted]

Original Prescription Serial No: 8770

PHARMACY ORDER

Prepared Date/Time: 27/03/2018 02:43 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Label



Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Alternate Drug	1875 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

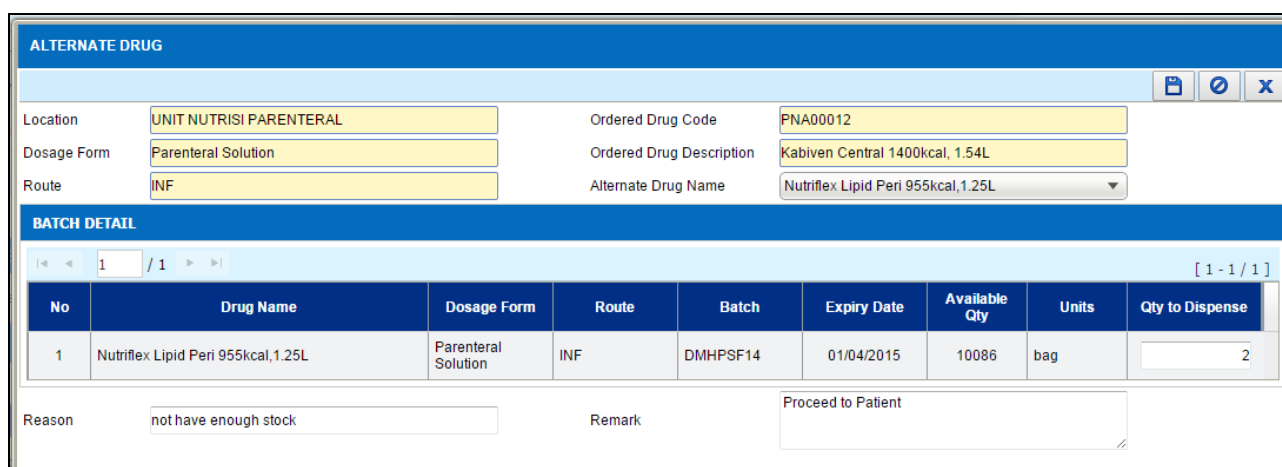
Dropdown menu options: Alternate Drug, Intervention, Hold Order

Figure 4.7-1 PN Preparation

Note

Alternate Drug:

- Click on the  button to select **Alternate Drug** as per Figure 4.7-1.
- Alternate Drug** function only can be used in Commercial preparation stage of the drug.
- Select the **Alternate Drug Name** from dropdown box as per Figure 4.7-2.
- List of drug are from unit catalog list.
- Enter **Qty to Dispense** field as per Figure 4.7-2.
- Enter **Reason** field if applicable as per Figure 4.7-2.
- Enter **Remark** field if applicable as per Figure 4.7-2.
- Click on the  button to save record and alert message will be appeared as per Figure 4.7-3.



ALTERNATE DRUG

Location: UNIT NUTRISI PARENTERAL Ordered Drug Code: PNA00012

Dosage Form: Parenteral Solution Ordered Drug Description: Kabiven Central 1400kcal, 1.54L

Route: INF Alternate Drug Name: Nutriflex Lipid Peri 955kcal, 1.25L

BATCH DETAIL

No	Drug Name	Dosage Form	Route	Batch	Expiry Date	Available Qty	Units	Qty to Dispense
1	Nutriflex Lipid Peri 955kcal, 1.25L	Parenteral Solution	INF	DMHPSF14	01/04/2015	10086	bag	2

Reason: not have enough stock Remark: Proceed to Patient

Figure 4.7-2 Alternate Drug

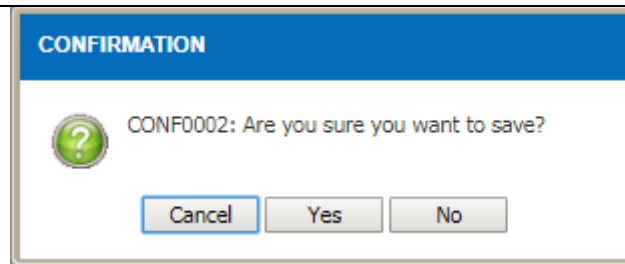
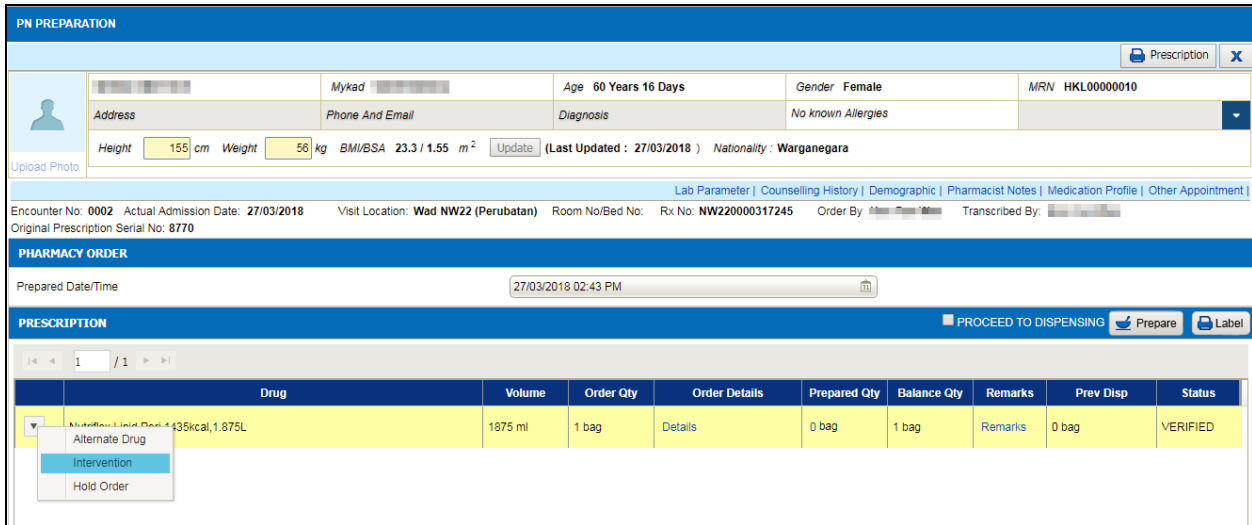


Figure 4.7-3 Confirmation Alert Message

Note

Click on the  button to confirm save record.

4.8 Intervention



PN PREPARATION

Prescription X

Mykad: [REDACTED] Age: 60 Years 16 Days Gender: Female MRN: HKL00000010

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

Height: 155 cm Weight: 56 kg BMI/BSA: 23.3 / 1.55 m² Update (Last Updated: 27/03/2018) Nationality: Warganegara

Upload Photo

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

Encounter No: 0002 Actual Admission Date: 27/03/2018 Visit Location: Wad NW22 (Perubatan) Room No/Bed No: Rx No: NW220000317245 Order By: [REDACTED] Transcribed By: [REDACTED]

Original Prescription Serial No: 8770

PHARMACY ORDER

Prepared Date/Time: 27/03/2018 02:43 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Label


	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
	Multifac Liquid Diet 4.135kcal, 1.875L	1875 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

Dropdown menu options: Alternate Drug, Intervention, Hold Order

Figure 4.8-1 PN Preparation

Note

Intervention:

- Click on the  button to select **Intervention** as per Figure 4.8-1 to modify drug details as per Figure 4.8-2.
- PN Intervention Order screen include three sections:
 - Intervention Reason
 - Modify Order
 - Administration Info
- During Verification stage screen, system only displayed Intervention reason section but on Preparation screen displayed both Intervention Reason & Modify Order. Where user able to record intervention reason in verify stage while user able to update reason and modify the order in preparation stage.

PN INTERVENTION ORDER

History Confirm X

INTERVENTION REASON

1 / 1 [1 - 12 / 12]

	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Frequency		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Incompatibility		<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/>	Others		<input type="radio"/>	<input type="radio"/>

MODIFY ORDER

Type of PN: ☒ Commercial / MOH Pre mix(Std. Soln)
☐ Nutriflex Lipid Peri 1435kcal, 1.875L
☐ Compounded

☐ Add Additive

Body weight type: ☒ Actual ☐ Ideal ☐ Adjusted Body weight: 56 kg

ADMINISTRATION INFO

Volume: 1875 ml Indication for PN: Gastrointestinal fistula
Frequency: OD (once daily) Infusion Line: Central
Infusion Over: 24 hours Order Quantity: 1 bag

Figure 4.8-2 PN Preparation Intervention

Note

- Check on the ☐ **Intervention Reason** checkbox as appropriate and enter **Remarks** field if applicable.
- Select ☐ **Intervention Accepted** radio button or **Intervention Not Accepted** radio button.
- Administration Information** section user is allowed to modify **Volume, Frequency, Duration and Infusion Over** field.
- Intervention for **PN Compounded** order type, user is allowed to modify **PN Component** as per figure 4.8-3

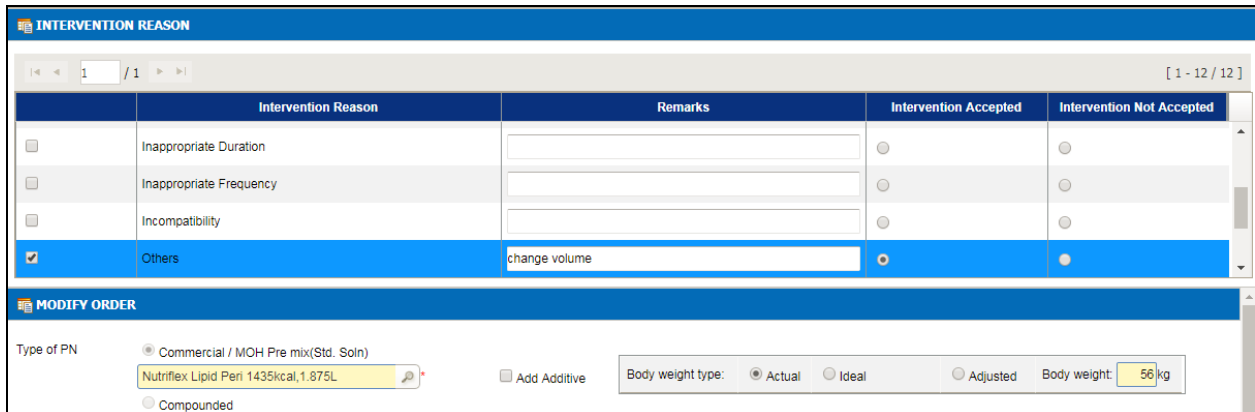
PN COMPONENT

Use Fluid Calculator ☒

	By weight	Recommended range(per kg)	Per day	Energy(per day)
Total volume required	100 ml/kg		300 ml	
Total oral feeding	0 ml/kg		ml	
TPN Volume	115.38 ml/kg		300 ml	
Energy required	55 kcal/kg		165 kcal	
Macronutrient				
Carbohydrate	3 g/kg	5.00 - 12.00 g/kg	9 g	36 kcal
Lipid	1 g/kg	0.60 - 4.00 g/kg	3 g	27 kcal
Protein	2 g/kg	1.00 - 4.00 g/kg	6 g	24 kcal
L-Glutamin	ml/kg	0.00 - 0.00 ml/kg	0 ml	0 kcal
Carbohydrate:Lipid(kcal)	57 : 43	1g	63 : 1	87 kcal
Electrolytes				
Sodium(Natrium),Na+	1 mmol/kg	2.00 - 5.00 mmol/kg	3 mmol	
Potassium(Kalium),K+	1 mmol/kg	2.00 - 4.00 mmol/kg	3 mmol	
Calcium,Ca2+	1 mmol/kg	0.15 - 2.00 mmol/kg	3 mmol	
Magnesium,Mg+	0.15 mmol/kg	0.15 - 0.25 mmol/kg	0.45 mmol	
Phosphate,(PO4)2-	0.5 mmol/kg	1.00 - 2.00 mmol/kg	1.5 mmol	
Chloride,Cl+	2 mmol/kg	1.00 - 5.00 mmol/kg	6 mmol	
Acetate(CH3COO)	mmol/kg	0.00 - 0.00 mmol/kg	mmol	
Trace elements				
Vitamin				
<input checked="" type="radio"/> Single Vitamin <input type="radio"/> Combine Vitamin				
Water and Fat Soluble	ml/kg	0.00 - 0.00 ml	ml	

Figure 4.8-3 PN Component Intervention

- Click on the [Refresh Prescription](#) button to update back prescription details.





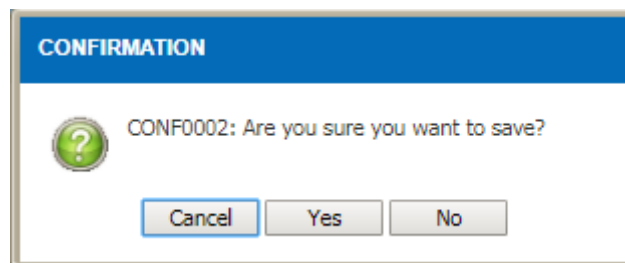
INTERVENTION REASON				
	Intervention Reason	Remarks	Intervention Accepted	Intervention Not Accepted
<input type="checkbox"/>	Inappropriate Duration		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Inappropriate Frequency		<input type="radio"/>	<input type="radio"/>
<input type="checkbox"/>	Incompatibility		<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/>	Others	change volume	<input checked="" type="radio"/>	<input type="radio"/>

MODIFY ORDER	
Type of PN	<input checked="" type="radio"/> Commercial / MOH Pre mix(Std. Soln) <input type="radio"/> Compounded
	<input checked="" type="checkbox"/> Add Additive
	Body weight type: <input checked="" type="radio"/> Actual <input type="radio"/> Ideal <input type="radio"/> Adjusted
	Body weight: 56 kg

Figure 4.8-4 PN Intervention Order

Note

- Click on the  button to save record as per Figure 4.8-4 and alert message will be displayed as per Figure 4.8-5. Click on the  button to save record.






CONFIRMATION

CONF0002: Are you sure you want to save?

Figure 4.8-5 Confirmation Alert Message

Note

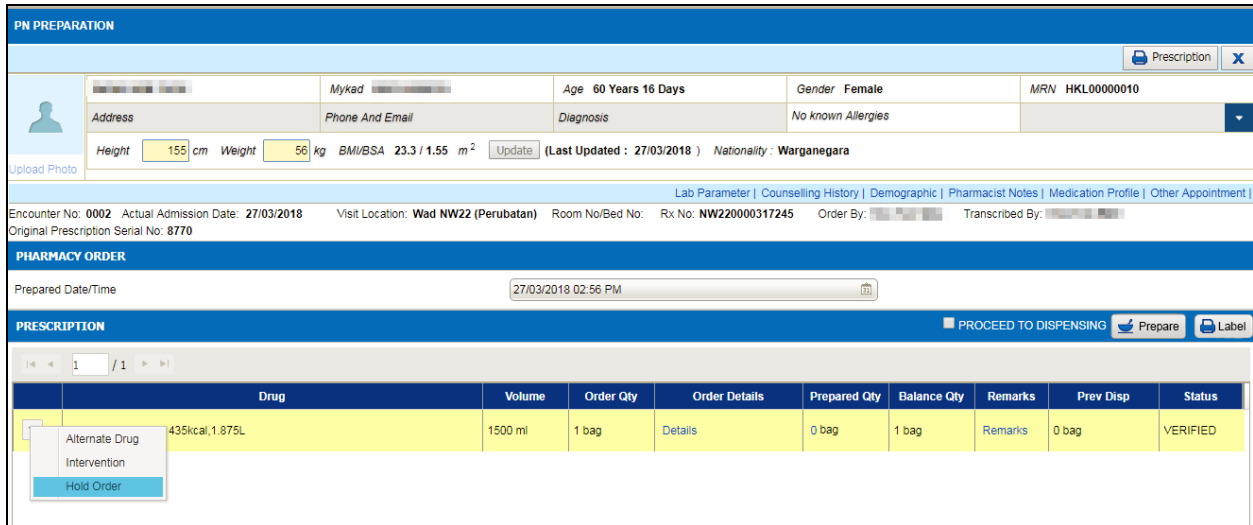
- Click on the  button to save record.
- Click on the  button to view history of Intervention reason history listing as per Figure 4.8-6.
- Click on the  button to close Intervention Reason History Listing screen.



INTERVENTION REASON HISTORY LISTING			
Date/Time	Intervention Reason	Remarks	Updated By
	Others	change volume	

Figure 4.8-6 Intervention Reason history

4.9 Hold/Resume PN Order



PN PREPARATION

Prescription X

Mykad: [REDACTED] Age: 60 Years 16 Days Gender: Female MRN: HKL00000010

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

Height: 155 cm Weight: 56 kg BMI/BSA: 23.3 / 1.55 m² Update (Last Updated: 27/03/2018) Nationality: Warganegara

Upload Photo

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

Encounter No: 0002 Actual Admission Date: 27/03/2018 Visit Location: Wad NW22 (Perubatan) Room No/Bed No: Rx No: NW220000317245 Order By: [REDACTED] Transcribed By: [REDACTED]

Original Prescription Serial No: 8770

PHARMACY ORDER

Prepared Date/Time: 27/03/2018 02:56 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Label


Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
435kcal, 1.875L	1500 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

Alternate Drug
Intervention
Hold Order

Figure 4.9-1 PN Preparation

Note

Hold/Resume PN Order:

- Click on the  button to select **Hold Order** and **Hold Order** screen will be appeared as per Figure 4.9-1.
- Select the **Hold Reason** from dropdown box:
 - Authenticity
 - Contraindication
 - Drug Interaction
 - Inappropriate Dose
 - Inappropriate Drug
 - Inappropriate Duration
 - Inappropriate Frequency
 - Incompatibility
 - Intervention
 - Others
 - Polypharmacy
 - Suggest to Monitor Vital Signs/Lab Result
 - Wrong Patient
- Other Reason** field will enable if user select hold reason as **Others**.

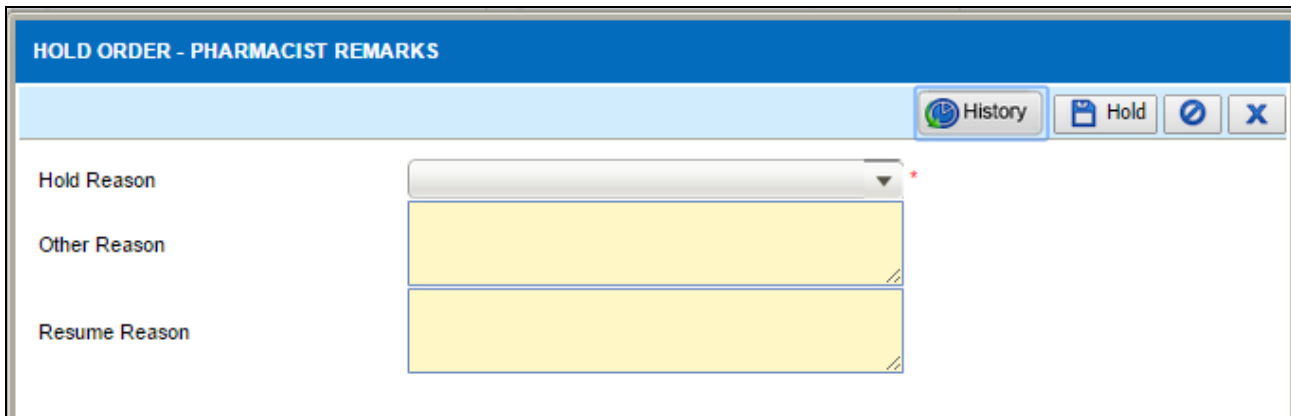


Figure 4.9-2 Hold Order-Pharmacy Remarks

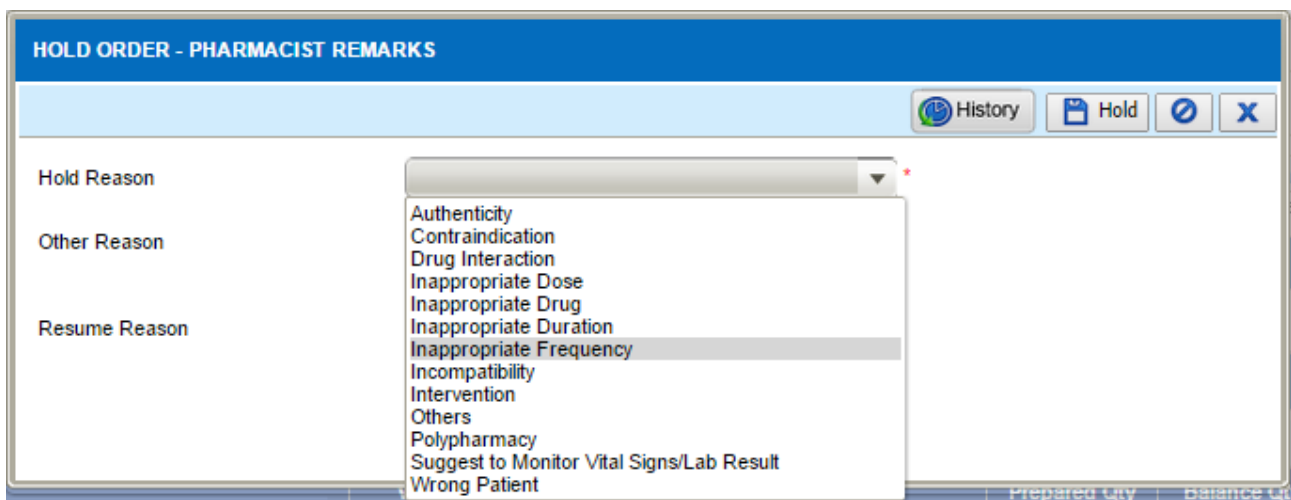




Figure 4.9-3 Hold Order-Pharmacy Remarks

Note

- Click on the  button to hold order.
- Click on the  button to confirm save record.

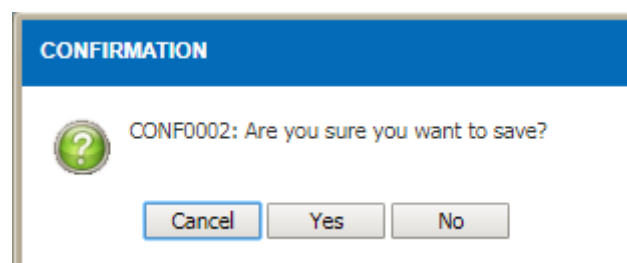
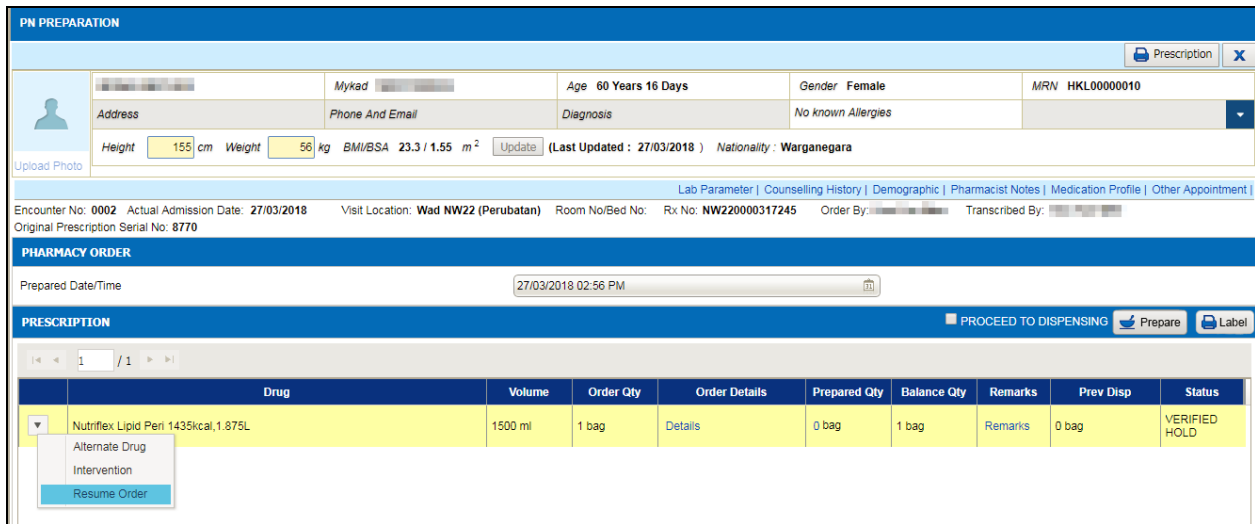


Figure 4.9-4 Confirmation Alert Message



PN PREPARATION

Prescription X

Address: [Redacted] Mykad: [Redacted] Age: 60 Years 16 Days Gender: Female MRN: HKL00000010

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

Height: 155 cm Weight: 56 kg BMI/BSA: 23.3 / 1.55 m² Update (Last Updated: 27/03/2018) Nationality: Warganegara

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

Encounter No: 0002 Actual Admission Date: 27/03/2018 Visit Location: Wad NW22 (Perubatan) Room No/Bed No: Rx No: NW220000317245 Order By: [Redacted] Transcribed By: [Redacted]

Original Prescription Serial No: 8770

PHARMACY ORDER

Prepared Date/Time: 27/03/2018 02:56 PM

PRESCRIPTION PROCEED TO DISPENSING Prepare Label

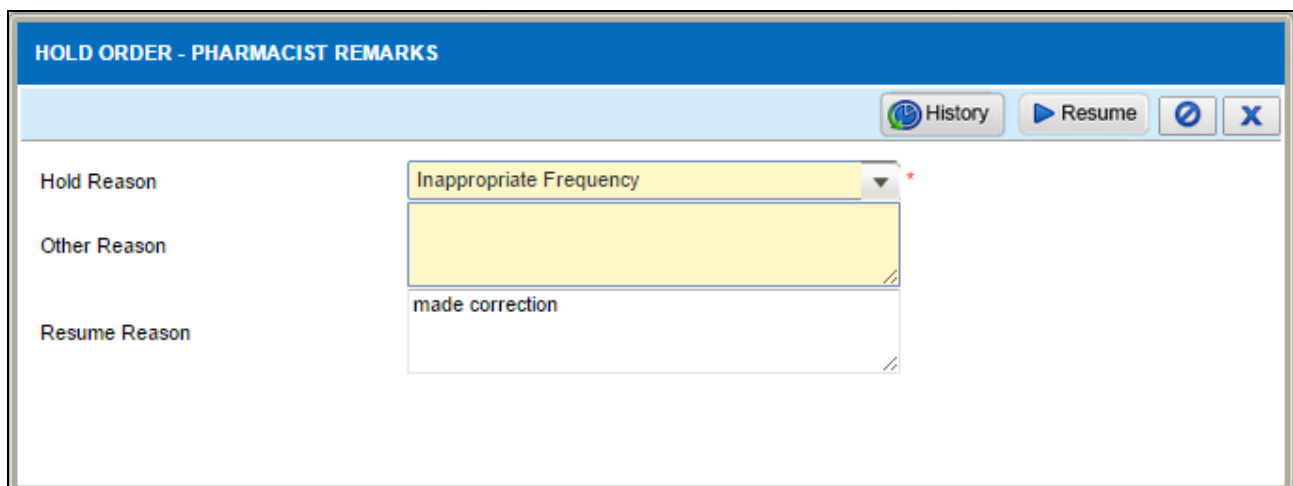
	Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
	Nutriflex Lipid Peri 1435kcal, 1.875L	1500 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED HOLD

Alternate Drug
Intervention
Resume Order

Figure 4.9-5 PN Preparation

Note

- Click on the  button to select 'Resume Order' as per Figure 4.9-5.



HOLD ORDER - PHARMACIST REMARKS



History Resume X

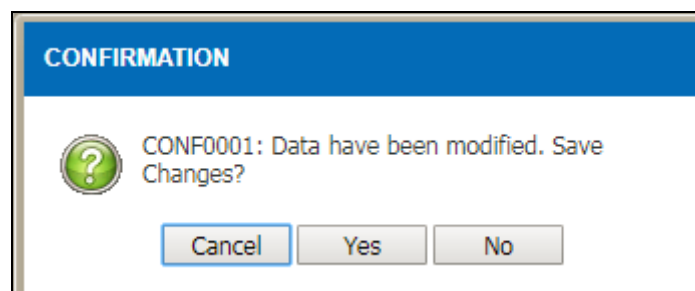
Hold Reason: Inappropriate Frequency *

Other Reason: [Redacted]

Resume Reason: made correction

Figure 4.9-6 Hold Order-Pharmacist Remarks

- Click on the  button to resume hold order as per Figure 4.9-6.
- Click on the  button to close window and alert message will be displayed as per Figure 4.9-7.





CONFIRMATION

CONF0001: Data have been modified. Save Changes?

Cancel Yes No

Figure 4.9-7 Confirmation Alert Message

Note

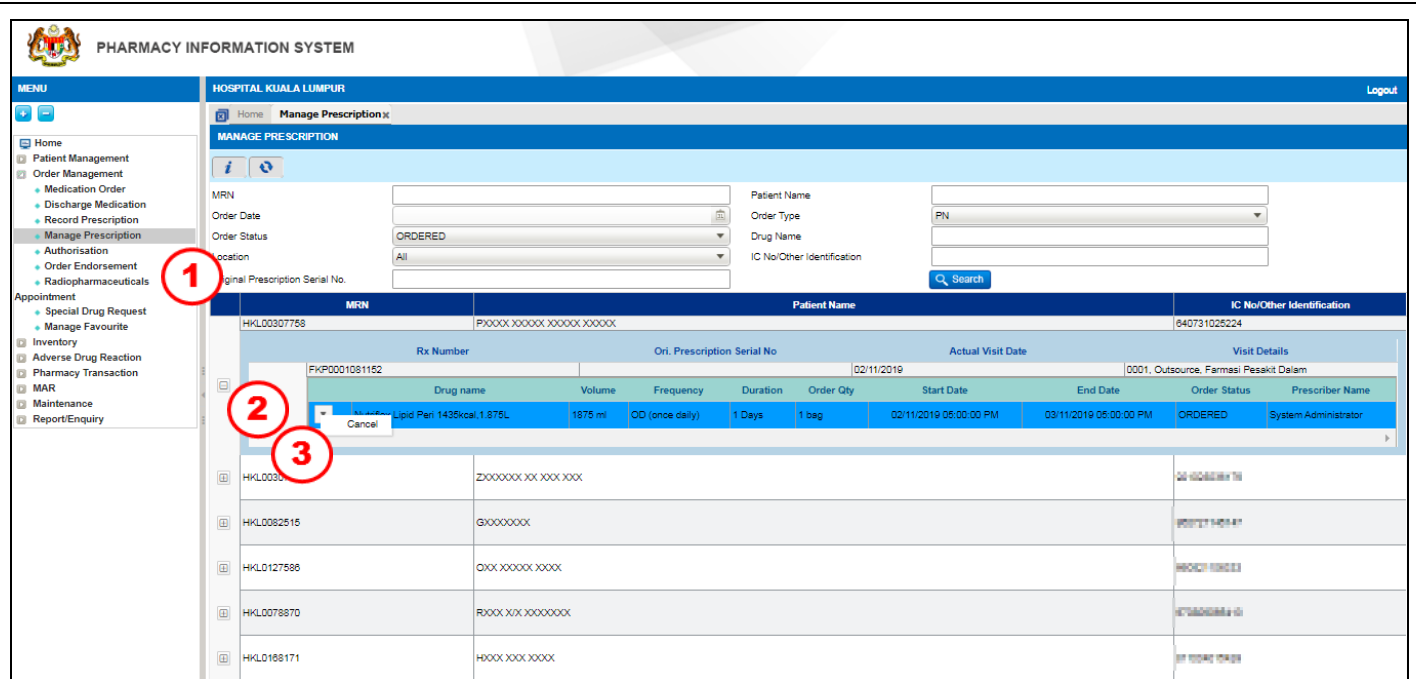
- Click on the  button to confirm save record.
- Click on the  button as per Figure 4.9-6 to view history of hold order reason history listing 4.9-8.

HOLD ORDER REASON HISTORY LISTING					
1 / 1 [1 - 1 / 1]					
Date/Time	Screen	Hold Reason	Remarks	Resume Remarks	Updated By
20/03/2015 09:42 AM	Preparation	Inappropriate Frequency			Shantasaroopini a/p Sathia Moorthy

Figure 4.9-8 Hold Order Reason History Listing

5.0 Manage Prescription

5.1 Cancel/Stop Order



PHARMACY INFORMATION SYSTEM

HOSPITAL KUALA LUMPUR

MANAGE PRESCRIPTION

MRN: Patient Name:
 Order Date: Order Type:
 Order Status: Drug Name:
 Location: IC No/Other Identification:
 Original Prescription Serial No.:

MRN	Patient Name	IC No/Other Identification
HKL00307768	PXXXX XXXXX XXXXX XXXXX	840731026224

Rx Number	Drug name	Volume	Frequency	Duration	Order Qty	Start Date	End Date	Order Status	Prescriber Name
FKP0001081152	Lipid Peri 1435kcal, 1.875L	1875 ml	OD (once daily)	1 Days	1 bag	02/11/2019 05:00:00 PM	03/11/2019 05:00:00 PM	ORDERED	System Administrator

Figure 5.1-1 Manage Prescription - stop/cancel order

Cancel and Stop Order screen allow user to cancel and stop prescription which is wrongly prescribe or need to stop the medication

STEP 1

Click on 'Order Management' menu and click on 'Manage Prescription' sub-menu


Note

- Prescriber have the options to filter order type by click the drop down box :-
 - PN
- By default list of patient will be displayed according to prescriber location access.
- Various search criteria is provided as below:
 - MRN
 - Patient Name
 - Order Date
 - Order Type
 - Order Status
 - Drug name
 - Location
 - Original Prescription Serial No
 - IC No


STEP 2

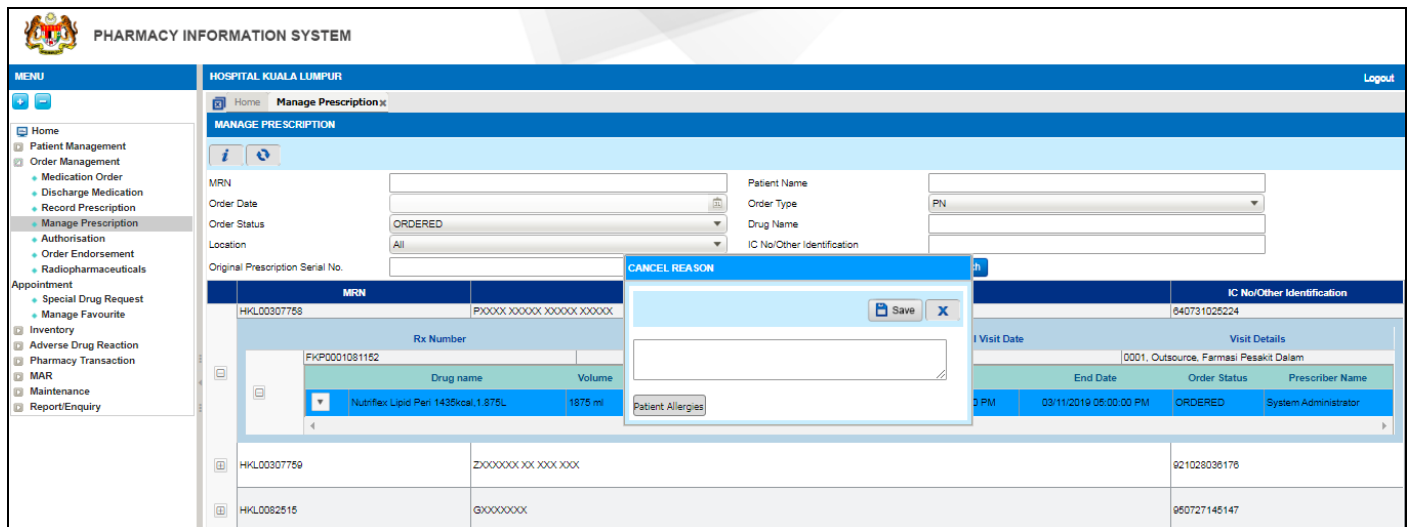
Click on the  expand button to display order details as per Figure 5.1-1

STEP 3

Right click mouse on the  button and select 'Cancel' as per Figure 5.1-1

Note

- Select 'Cancel' function to cancel order that have not yet been dispensed to patient and system will display 'Cancel Reason' screen as per Figure 5.1-2.
- Enter reason for cancel order and click on the  Save button to save record.
- Select 'Stop' function to stop order that has dispensed to patient as per Figure 5.1-1.



The screenshot displays the 'PHARMACY INFORMATION SYSTEM' interface for 'HOSPITAL KUALA LUMPUR'. The main window is titled 'MANAGE PRESCRIPTION' and contains a table of prescriptions. A 'CANCEL REASON' dialog box is open over the first prescription entry.

MANAGE PRESCRIPTION Table:

MRN	PXXXX XXXXX XXXXX XXXXX	IC No/Other Identification
HKL00307758	PXXXX XXXXX XXXXX XXXXX	640731025224
HKL00307759	ZXXXXXX XX XXX XXX	921028036176
HKL0082515	GXXXXXXX	950727145147

CANCEL REASON Dialog Box:

Original Prescription Serial No. [Field]
 Rx Number: FXP0001081152
 Drug name: NutriFlex Lipid Peri 1435kcal, 1.875L
 Volume: 1875 ml
 Patient Allergies: [Field]
 Buttons: Save, X

Figure 5.1-2 Cancel reason

6.0 Release/Discard Batch

Note

- Release function is to release and update back stock into inventory.
- Discard function is to discard stock from inventory even not doing dispensing.

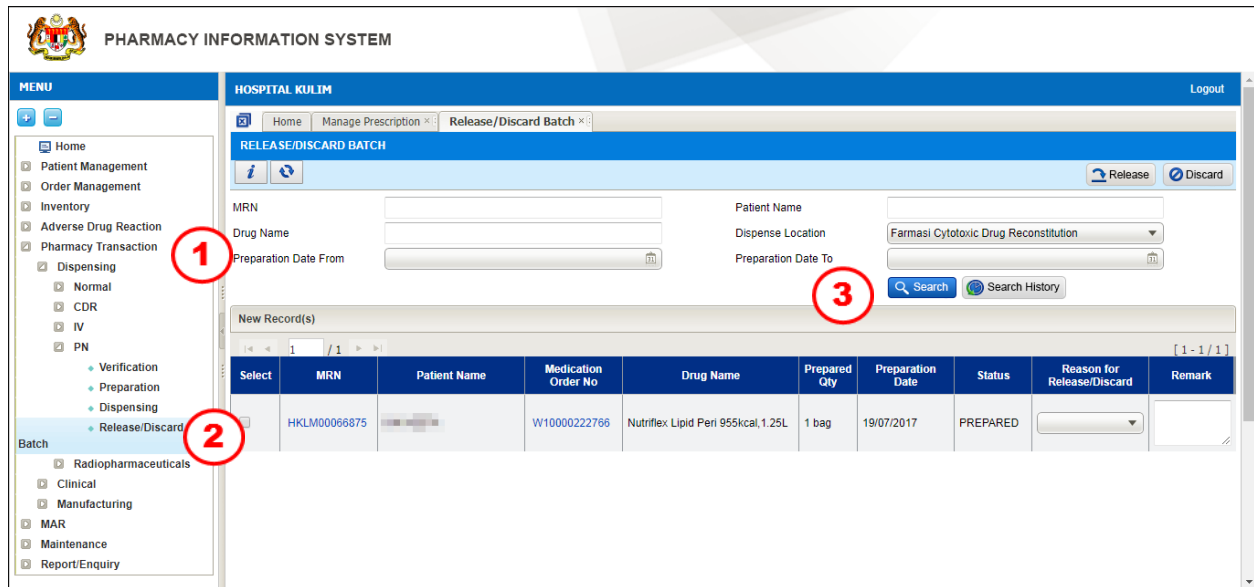


Figure 6.0-1 Release/Discard Batch Listing Page

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 6.0-1 Patient Record Search

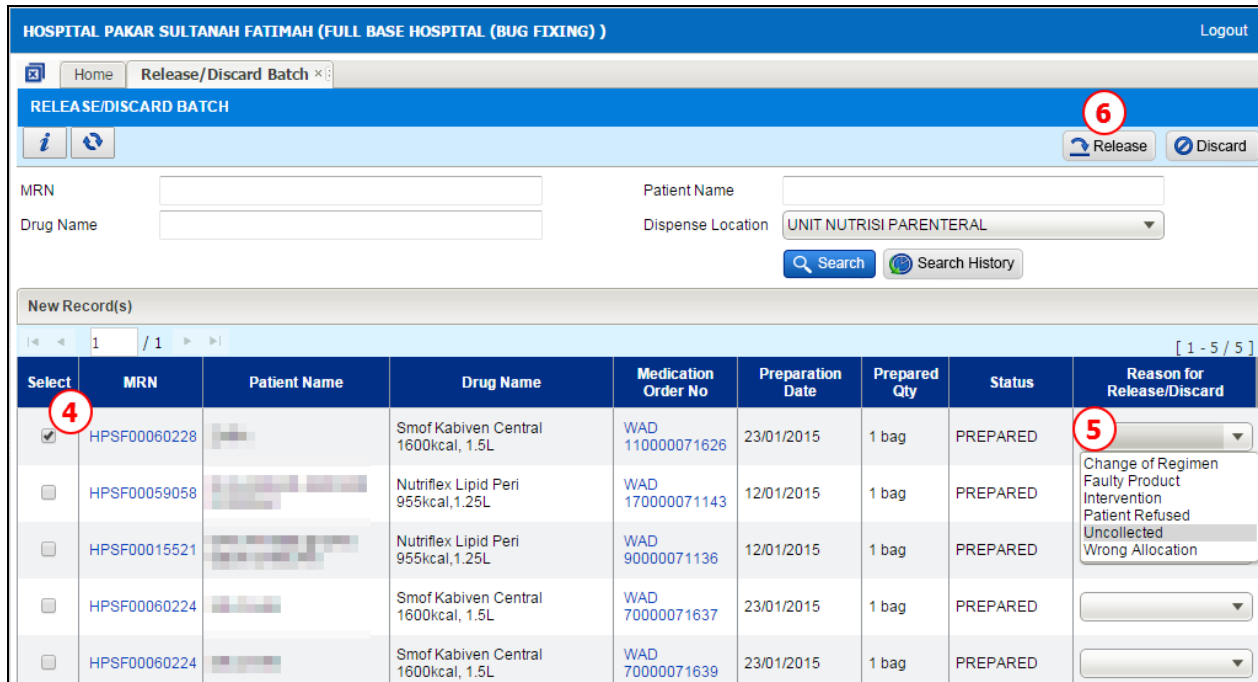
STEP 3

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 Qty
 - Status

- Reason for Discard



HOSPITAL PAKAR SULTANAH FATIMAH (FULL BASE HOSPITAL (BUG FIXING)) Logout

Home Release/Discard Batch

RELEASE/DISCARD BATCH

MRN: Patient Name:
Drug Name: Dispense Location: UNIT NUTRISI PARENTERAL

New Record(s)

Select	MRN	Patient Name	Drug Name	Medication Order No	Preparation Date	Prepared Qty	Status	Reason for Release/Discard
<input checked="" type="checkbox"/>	HPSF00060228	[REDACTED]	SmofKabiven Central 1600kcal, 1.5L	WAD 110000071626	23/01/2015	1 bag	PREPARED	Change of Regimen
<input type="checkbox"/>	HPSF00059058	[REDACTED]	Nutriflex Lipid Peri 955kcal, 1.25L	WAD 170000071143	12/01/2015	1 bag	PREPARED	Faulty Product
<input type="checkbox"/>	HPSF00015521	[REDACTED]	Nutriflex Lipid Peri 955kcal, 1.25L	WAD 90000071136	12/01/2015	1 bag	PREPARED	Intervention
<input type="checkbox"/>	HPSF00060224	[REDACTED]	SmofKabiven Central 1600kcal, 1.5L	WAD 70000071637	23/01/2015	1 bag	PREPARED	Patient Refused
<input type="checkbox"/>	HPSF00060224	[REDACTED]	SmofKabiven Central 1600kcal, 1.5L	WAD 70000071639	23/01/2015	1 bag	PREPARED	Uncollected
								Wrong Allocation

Figure 6.0-2 Release/Discard Batch

STEP 4

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

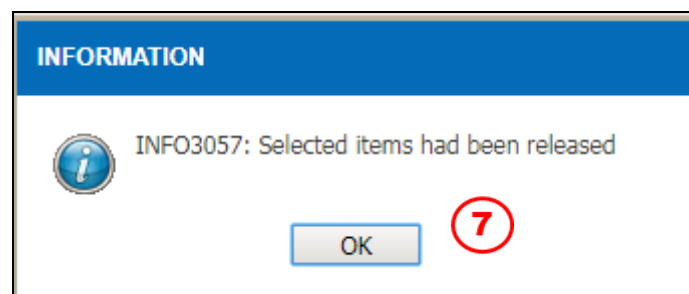
STEP 5

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



INFORMATION

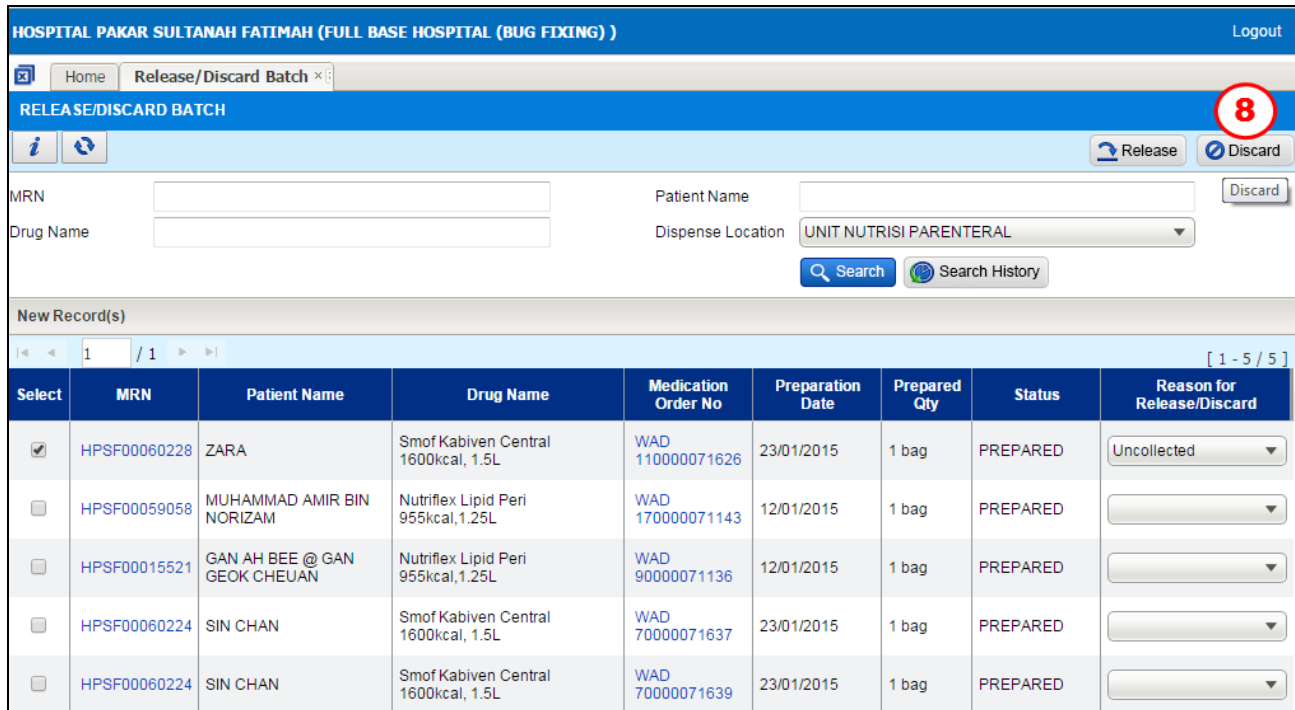
 INFO3057: Selected items had been released

7

Figure 6.0-3 Alert Message

STEP 7


Click on the  button to release order batch



Select	MRN	Patient Name	Drug Name	Medication Order No	Preparation Date	Prepared Qty	Status	Reason for Release/Discard
<input checked="" type="checkbox"/>	HPSF00060228	ZARA	Smof Kabiven Central 1600kcal, 1.5L	WAD 110000071626	23/01/2015	1 bag	PREPARED	Uncollected
<input type="checkbox"/>	HPSF00059058	MUHAMMAD AMIR BIN NORIZAM	Nutriflex Lipid Peri 955kcal, 1.25L	WAD 170000071143	12/01/2015	1 bag	PREPARED	
<input type="checkbox"/>	HPSF00015521	GAN AH BEE @ GAN GEOK CHEUAN	Nutriflex Lipid Peri 955kcal, 1.25L	WAD 90000071136	12/01/2015	1 bag	PREPARED	
<input type="checkbox"/>	HPSF00060224	SIN CHAN	Smof Kabiven Central 1600kcal, 1.5L	WAD 70000071637	23/01/2015	1 bag	PREPARED	
<input type="checkbox"/>	HPSF00060224	SIN CHAN	Smof Kabiven Central 1600kcal, 1.5L	WAD 70000071639	23/01/2015	1 bag	PREPARED	

Figure 6.0-4 Release / Discard Batch

STEP 8

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

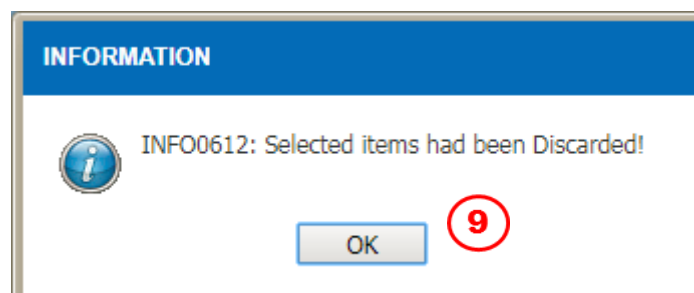




Figure 6.0-5 Information Alert Message

STEP 9

Click on the  button to discard batch

Note

Click on the  button to view release/discard history as Figure 6.0-6.


PHARMACY INFORMATION SYSTEM

HOSPITAL KUALA LUMPUR
Logout

Home
Release/Discard Batch

RELEASE/DISCARD BATCH
Release
Discard

MRN:
Patient Name:

Drug Name:
Dispense Location:

Preparation Date From:
Preparation Date To:

IC No/Other Identification:
Search
Search History

New Record(s)
[1 - 10 / 32]

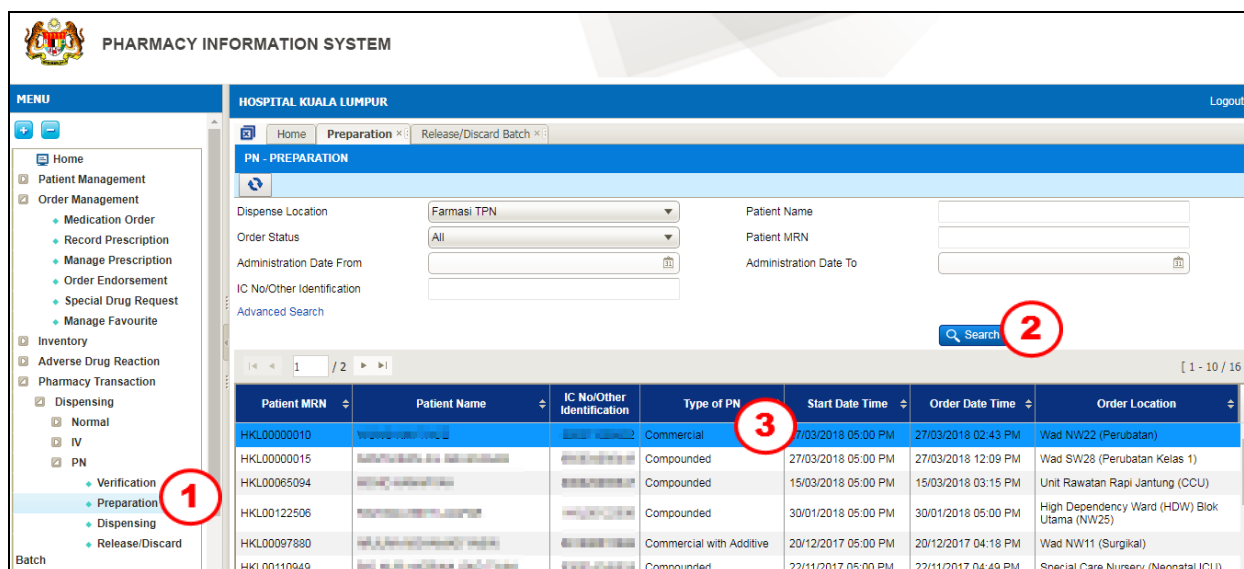
Select	MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
<input type="checkbox"/>	HL0227303	BX XXXXXXXX XXXXXXXXXX	2566733	SCN0000708039	PN compounded PAEDIATRIC	1 bag	12/02/2019	PREPARED	<input type="text"/>	
<input type="checkbox"/>	HL0253570	XXXX XXX XXX XX	100416140833	KV90000835553	PN compounded NEONATE	1 bag	07/05/2019	PREPARED	<input type="text"/>	
<input type="checkbox"/>	HL0249842	BX XXXXXXX XXXXX XXXXX	2819983	SCN0000803935	PN compounded PAEDIATRIC_INFANT	1 bag	15/04/2019	PREPARED	<input type="text"/>	
<input type="checkbox"/>	HL0227839	BX XXXXXXX XXXXXXXX	2566709	SCN0000712898	PN compounded PAEDIATRIC	1 bag	15/02/2019	PREPARED	<input type="text"/>	

Figure 6.0-6 Release/Discard Batch

7.0 Outsource

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

7.1 Sending Outsource



PHARMACY INFORMATION SYSTEM

HOSPITAL KUALA LUMPUR Logout

Home Preparation × Release/Discard Batch ×

PN - PREPARATION

Dispense Location: Farmasi TPN Patient Name:

Order Status: All Patient MRN:

Administration Date From: Administration Date To:

IC No/Other Identification:

Advanced Search

[1 - 10 / 16]

Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location
HKL00000010	Yong Guan Hong	800000000000000000	Commercial	7/03/2018 05:00 PM	27/03/2018 02:43 PM	Wad NW22 (Perubatan)
HKL00000015	Subashini S. Subramanian	800000000000000000	Compounded	27/03/2018 05:00 PM	27/03/2018 12:09 PM	Wad SW28 (Perubatan Kelas 1)
HKL00065094	Subashini S. Subramanian	800000000000000000	Compounded	15/03/2018 05:00 PM	15/03/2018 03:15 PM	Unit Rawatan Rapi Jantung (CCU)
HKL00122506	Subashini S. Subramanian	800000000000000000	Compounded	30/01/2018 05:00 PM	30/01/2018 05:00 PM	High Dependency Ward (HDW) Blok Utama (NW25)
HKL00097880	Subashini S. Subramanian	800000000000000000	Commercial with Additive	20/12/2017 05:00 PM	20/12/2017 04:18 PM	Wad NW11 (Surgical)
HKL00110949	Subashini S. Subramanian	800000000000000000	Compounded	22/11/2017 05:00 PM	22/11/2017 04:49 PM	Special Care Nursery (Neonatal ICU)

Figure 7.1-1 PN Preparation Listing Page

STEP 1

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

Note

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

STEP 2

Click on the button and system will display related order

STEP 3

Double click on the selected patient record and system will display PN Dispensing screen as per Figure 7.1-2

PN PREPARATION

Prescription X

Mykad: [Redacted] Age: 34 Years 03 Months 24 Days Gender: Male MRN: HKLM00198317

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] Known Allergies: [Redacted]

Height: 165 cm Weight: 56 kg BMI/BSA: 20.6 / 1.6 m² Update (Last Updated: 24/06/2019) Nationality: Warganegara

Upload Photo

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

Encounter No: 0005 Actual Admission Date: 24/06/2019 Visit Location: Ward 3 -Medical (Male) Room No/Bed No: Rx No: W30000403085 Order By: Transcribed By:

Original Prescription Serial No:

PHARMACY ORDER

Prepared Date/Time: 29/07/2019 01:14 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	2000 ml	1 bag	Details	1 bag	1 bag	Details	Remarks	0 bag	VERIFIED

Figure 7.1-2 PN Preparation

STEP 4

Click on the  button to prepare outsource product

OUTSOURCE DETAILS

Send Outsource Request X

Mykad: [Redacted] Age: 34 Years 03 Months 24 Days Gender: Male MRN: HKLM00198317

Address: [Redacted] Phone And Email: [Redacted] Diagnosis: [Redacted] Known Allergies: [Redacted]

Height: 165 cm Weight: 56 kg BMI/BSA: 20.6 / 1.6 m² Update (Last Updated: 24/06/2019) Nationality: Warganegara

Upload Photo

PHARMACY ORDER

Outsource No: [Redacted]

Referred From: Hospital Kulim Referred To: Hospital Tanah Merah

Contact Person / Office: [Redacted] Contact Person / Office: [Redacted]

Contact no / Ext No: 056644345 Contact no / Ext No: 0122052544

Request Date/Time: 29/07/2019 1:19 PM Tentative Receipt Date:

Remarks:

Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks
W30000403085	24/06/2019 04:29:06 PM	PN Compounded Adult	Details	1	Remarks

Figure 7.1-3 Outsource Details

STEP 5

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

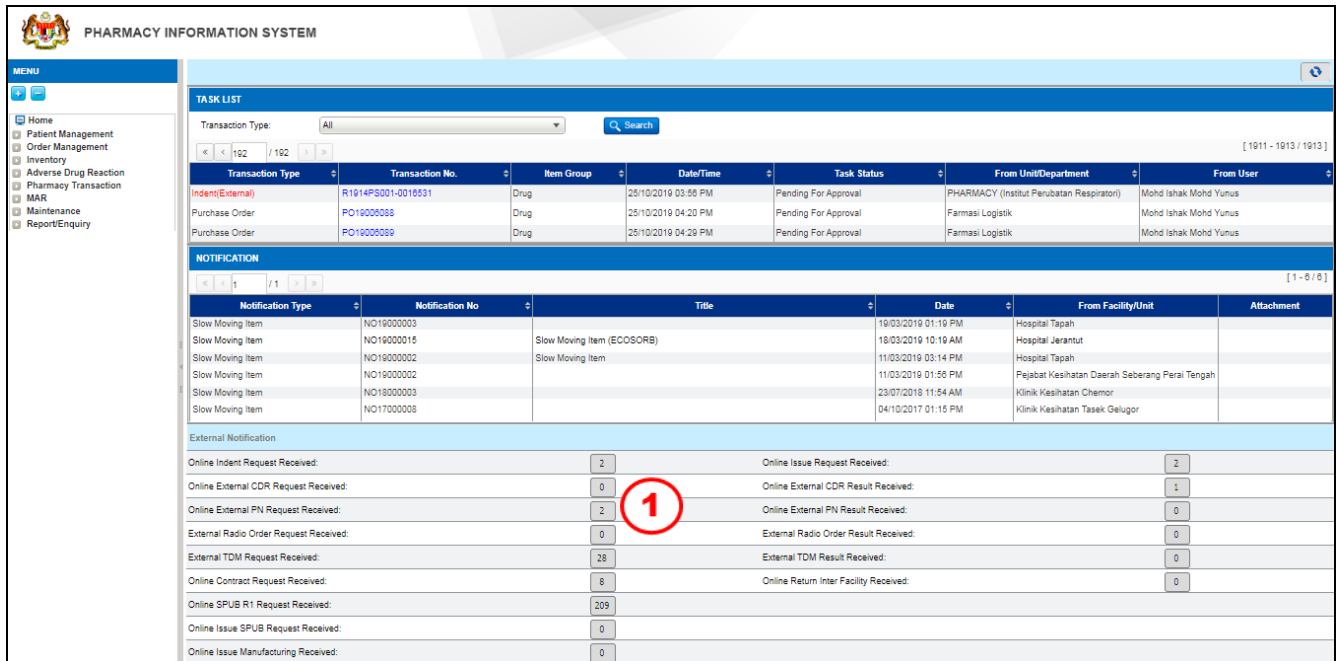
STEP 6

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

Note

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

7.2 Receive Outsource



PHARMACY INFORMATION SYSTEM

MENU

- Home
- Patient Management
- Order Management
- Inventory
- Adverse Drug Reaction
- Pharmacy Transaction
- MAR
- Maintenance
- Report/Enquiry

TASK LIST

Transaction Type: All Search

[1911 - 1913 / 1913]

Transaction Type	Transaction No.	Item Group	Date/Time	Task Status	From Unit/Department	From User
Indent(External)	R1914P5001-0015531	Drug	25/10/2019 03:55 PM	Pending For Approval	PHARMACY (Institut Perubatan Respiratori)	Mohd Ishak Mohd Yunus
Purchase Order	PO19000088	Drug	25/10/2019 04:20 PM	Pending For Approval	Farmasi Logistik	Mohd Ishak Mohd Yunus
Purchase Order	PO19000089	Drug	25/10/2019 04:29 PM	Pending For Approval	Farmasi Logistik	Mohd Ishak Mohd Yunus

NOTIFICATION

[1 - 6 / 6]


Notification Type	Notification No	Title	Date	From Facility/Unit	Attachment
Slow Moving Item	NO19000003		19/03/2019 01:19 PM	Hospital Tapa	
Slow Moving Item	NO19000015	Slow Moving Item (ECOSORB)	18/03/2019 10:19 AM	Hospital Jerantut	
Slow Moving Item	NO19000002		11/03/2019 03:14 PM	Hospital Tapa	
Slow Moving Item	NO19000002		11/03/2019 01:55 PM	Pejabat Kesihatan Daerah Seberang Perai Tengah	
Slow Moving Item	NO19000003		23/07/2019 11:54 AM	Klinik Kesihatan Chemor	
Slow Moving Item	NO17000003		04/10/2017 01:15 PM	Klinik Kesihatan Tasek Gelugor	

External Notification

Online Indent Request Received:	2	Online Issue Request Received:	2
Online External CDR Request Received:	0	Online External CDR Result Received:	1
Online External PN Request Received:	2	Online External PN Result Received:	0
External Radio Order Request Received:	0	External Radio Order Result Received:	0
External TDM Request Received:	28	External TDM Result Received:	0
Online Contract Request Received:	8	Online Return Inter Facility Received:	0
Online SPUB R1 Request Received:	209		
Online Issue SPUB Request Received:	0		
Online Issue Manufacturing Received:	0		

Figure 7.2-1 External Notification

STEP 1

Click on the Online External CDR Request Received  button and Outsource Listing window will be display as Figure 7.2-1



OUTSOURCE LISTING

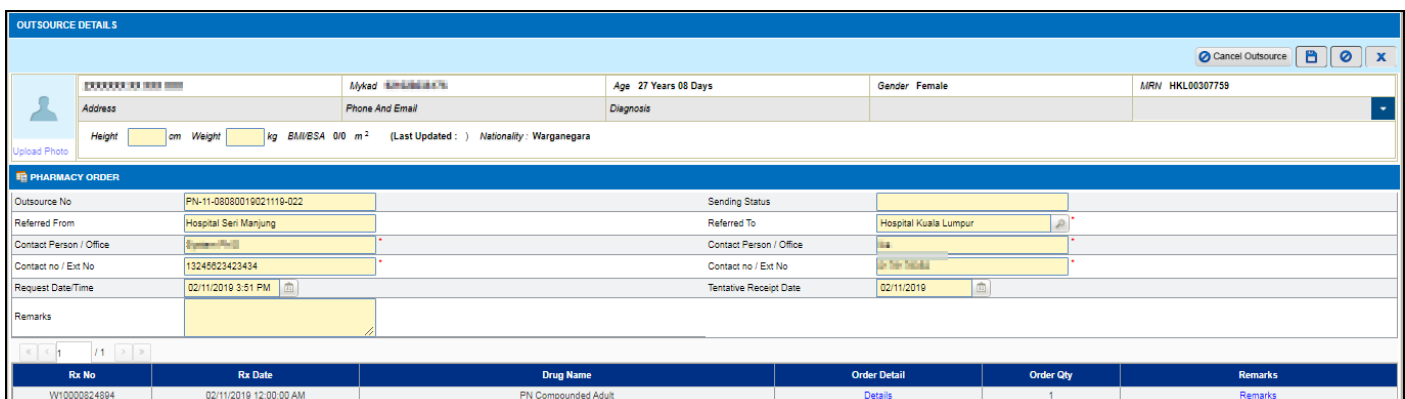
[1 - 2 / 2]

Outsource No	Patient Name	Gender	From(Hospital/Clinic)	Request Date/Time	Tentative Receipt Date	Register
PN-11-08080019021110-022	XXXXXXXXXX XXXX	Female	Hospital Seri Manjung	02/11/2019 3:51 PM	02/11/2019	Register
PN-11-08080019051110-024	XXXXXXXXXX XXXX	Male	Hospital Seri Manjung	05/11/2019 12:28 PM	05/11/2019	Register

Figure 7.2-2 Outsource Listing


Note

Click on the Outsource No hyperlink to view Outsource Details as Figure 7.2-3



OUTSOURCE DETAILS

Cancel Outsource

Mykad:  Age: 27 Years 08 Days Gender: Female MRN: HKL00307759

Address: Phone And Email: Diagnosis:

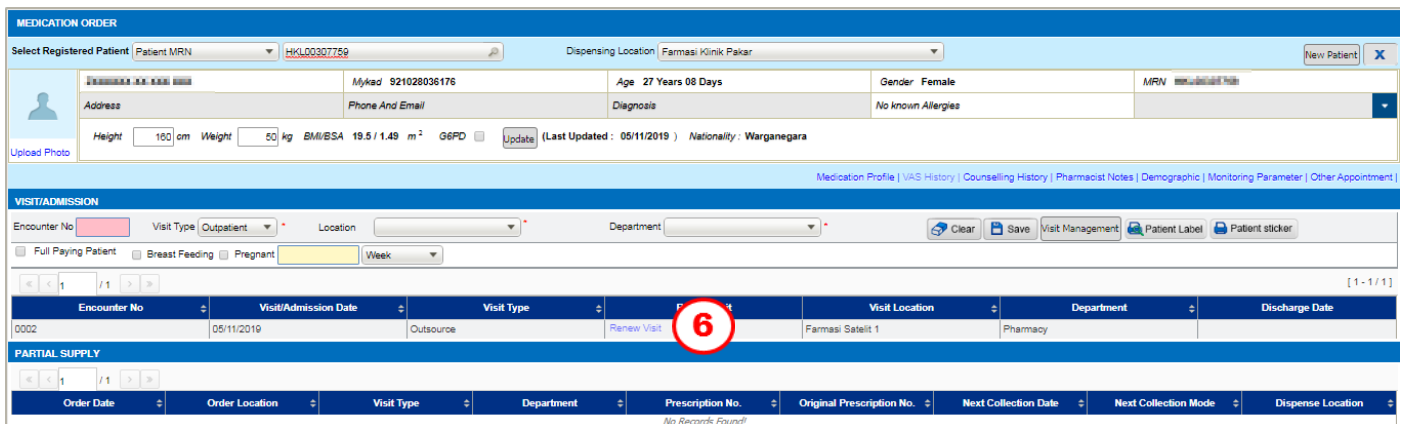
Height: cm Weight: kg BMI/BSA: 0/0 m² (Last Updated:) Nationality: Warganegara

PHARMACY ORDER

Outsource No	PN-11-08080019021110-022	Sending Status	
Referred From	Hospital Seri Manjung	Referred To	Hospital Kuala Lumpur
Contact Person / Office		Contact Person / Office	
Contact no / Ext No	13245623423434	Contact no / Ext No	
Request Date/Time	02/11/2019 3:51 PM	Tentative Receipt Date	02/11/2019
Remarks			

Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks
V10000024894	02/11/2019 12:00:00 AM	PN Compounded Adult	Details	1	Remarks

Figure 7.2-3 Outsource Details



MEDICATION ORDER

Select Registered Patient: Patient MRN [HKL00307759] Dispensing Location: Farmasi Klinik Pakar [New Patient X]

MyKad: 921028036176 Age: 27 Years 08 Days Gender: Female MRN: [Redacted]

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

Height: 100 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m² G6PD: [] Update (Last Updated: 05/11/2019) Nationality: Warganegara

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

VISIT/ADMISSION

Encounter No: [Redacted] Visit Type: Outpatient Location: [Redacted] Department: [Redacted] Clear Save Visit Management Patient Label Patient sticker

☐ Full Paying Patient ☐ Breast Feeding ☐ Pregnant [Redacted] Week: [Redacted]

Encounter No	Visit/Admission Date	Visit Type	Visit Location	Department	Discharge Date
0002	05/11/2019	Outsource	Farmasi Satelit 1	Pharmacy	

[1 - 1 / 1]

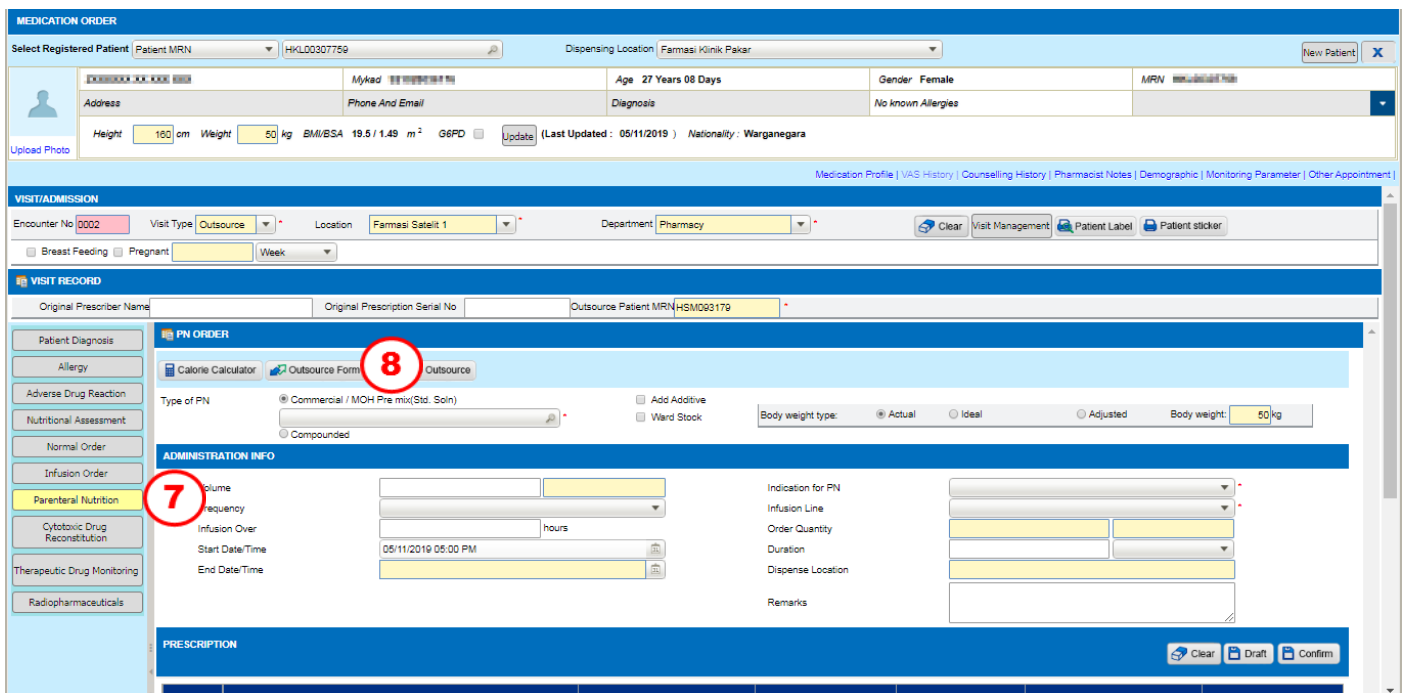
PARTIAL SUPPLY

Order Date	Order Location	Visit Type	Department	Prescription No.	Original Prescription No.	Next Collection Date	Next Collection Mode	Dispense Location
No Records Found!								

Figure 7.2-7 Medication Order

STEP 6

Double click on the outsource Visit Type



MEDICATION ORDER

Select Registered Patient: Patient MRN [HKL00307759] Dispensing Location: Farmasi Klinik Pakar [New Patient X]

MyKad: [Redacted] Age: 27 Years 08 Days Gender: Female MRN: [Redacted]

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

Height: 100 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m² G6PD: [] Update (Last Updated: 05/11/2019) Nationality: Warganegara

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

VISIT/ADMISSION

Encounter No: 0002 Visit Type: Outsource Location: Farmasi Satelit 1 Department: Pharmacy Clear Visit Management Patient Label Patient sticker

☐ Breast Feeding ☐ Pregnant [Redacted] Week: [Redacted]

VISIT RECORD

Original Prescriber Name: [Redacted] Original Prescription Serial No: [Redacted] Outsource Patient MRN: HSM093179

PN ORDER

PN ORDER [Outsource Form 8] Outsource

Type of PN: ☒ Commercial / MOH Pre mix (Std. Soln) ☐ Add Additive ☐ Ward Stock ☐ Compounded

Body weight type: ☒ Actual ☐ Ideal ☐ Adjusted Body weight: 50 kg

ADMINISTRATION INFO

Volume: [Redacted] Indication for PN: [Redacted]

Frequency: [Redacted] Infusion Line: [Redacted]

Infusion Over: [Redacted] Order Quantity: [Redacted]

Start Date/Time: 05/11/2019 05:00 PM Duration: [Redacted]

End Date/Time: [Redacted] Dispense Location: [Redacted]

Remarks: [Redacted]

PRESCRIPTION

Clear Draft Confirm

Figure 7.2-8 Medication Order

Step 7

Click on the tap **Parenteral Nutrition** tab

Step 8

Click on the **Online Outsource** button and Outsource Listing screen will be display as Figure 7.2-8

OUTSOURCE LISTING						
[1 - 1 / 1]						
Outsource No	Patient Name	Gender	From(Hospital/Clinic)	Request Date	Tentative Receipt Date	Register
PN-11-08080019021119-022	ZXXXXXXXXX XXX XXXX	Female	Hospital Seri Manjung	02/11/2019 3:51 PM	02/11/2019	Registered

Figure 7.2-9 Outsource Listing

STEP 9

Double click on the list and the PN Order will be updated as shown in Figure 7.2-10

MEDICATION ORDER

Select Registered Patient: Patient MRN: HKL00307759 Dispensing Location: Farmasi Klinik Pakar

MyKad: XXXXXXXX XXX XXXX Age: 27 Years 08 Days Gender: Female MRN: HKL00307759

Address: XXXXXXXX XXX XXXX Phone And Email: XXXXXXXX XXX XXXX Diagnosis: No known Allergies

Height: 160 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m² G6PD: ☐ Update (Last Updated: 05/11/2019) Nationality: Warganegara

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

VISIT/ADMISSION

Encounter No: 0002 Visit Type: Outsource Location: Farmasi Satelit 1 Department: Pharmacy

Breast Feeding: ☐ Pregnant: ☐ Week:

VISIT RECORD

Original Prescriber Name: Original Prescription Serial No: Outsource Patient MRN: HKM093179

PN ORDER

Calorie Calculator | Outsource Form | Online Outsource

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

PN for: ☐ Adult ☐ Pediatric Infant ☐ Pediatric ☐ Neonate

Body weight type: ☐ Actual ☐ Ideal ☐ Adjusted Body weight: 50 kg

PN COMPONENT

ADMINISTRATION INFO

PRESCRIPTION

Draft | Preview Prescription | Confirm | Delete

Drug	Volume	Order Qty	Order Details	Remarks	Status
PN Compounded Adult	2500 ml	1 Bag	Details	Remarks	DRAFT

Figure 7.2-10 Medication Order

STEP 10

Click on the  button to confirm the order

MEDICATION ORDER

Select Registered Patient: Patient MRN: HKL00307759 Dispensing Location: Farmasi Klinik Pakar

MyKad: XXXXXXXX XXX XXXX Age: 27 Years 08 Days Gender: Female MRN: HKL00307759

Address: XXXXXXXX XXX XXXX Phone And Email: XXXXXXXX XXX XXXX Diagnosis: No known Allergies

Height: 160 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m² G6PD: ☐ Update (Last Updated: 05/11/2019) Nationality: Warganegara

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

VISIT/ADMISSION

Encounter No: 0002 Visit Type: Outsource Location: Farmasi Satelit 1 Department: Pharmacy

Breast Feeding: ☐ Pregnant: ☐ Week:

VISIT RECORD

Original Prescriber Name: Original Prescription Serial No: Outsource Patient MRN: HKM093179

PN ORDER

Preview Prescription | PROCEED TO PREPARATION | Verify

Drug	Volume	Order Qty	Order Details	Remarks	Status
PN Compounded Adult	2500 ml	1 Bag	Details	Remarks	ORDERED

Figure 7.2-11 Medication Order

Note

- *User can proceed with dispensing process (Verification, Prepare and Dispense)*
- *To proceed with CDR Dispensing process, please refer*
 1. Section [4.0 Parental Nutrition \(PN\) Order, Verify and Prepare](#)
 2. Section [5.0 PN Dispensing](#)

8.0 Acronyms

Abbreviation	Definition
PhIS	Pharmacy Information System
CPS	Clinical Pharmacy System
MOH	Ministry Of Health
HQ	Headquarters
PN	Parenteral Nutrition

9.0 Links to Clinical Modules

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