



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

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## **Pharmacy Based**

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

<p><b>Version</b> : 12<sup>th</sup> Edition <b>Document ID</b> : PB_U.MANUAL_PN</p>
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Reference ID : PB\_U.MANUAL\_PN\_DISPENSING-12<sup>th</sup> E

Application reference: PhIS & CPS v2.5.1



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## 1.0 Introduction

### 1.1 Overview of Phis

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

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

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

### 1.2 Purpose and Objectives

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

User will understand the following activities in details:

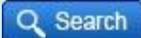
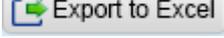
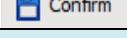
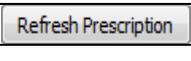
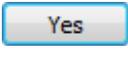
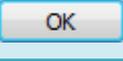
### 1.3 Organised Sections

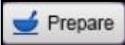
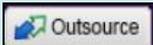
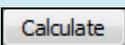
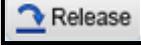
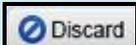
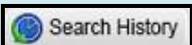
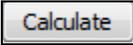
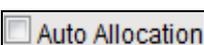
These are the sections within this document:

- 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
<input type="checkbox"/>	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)

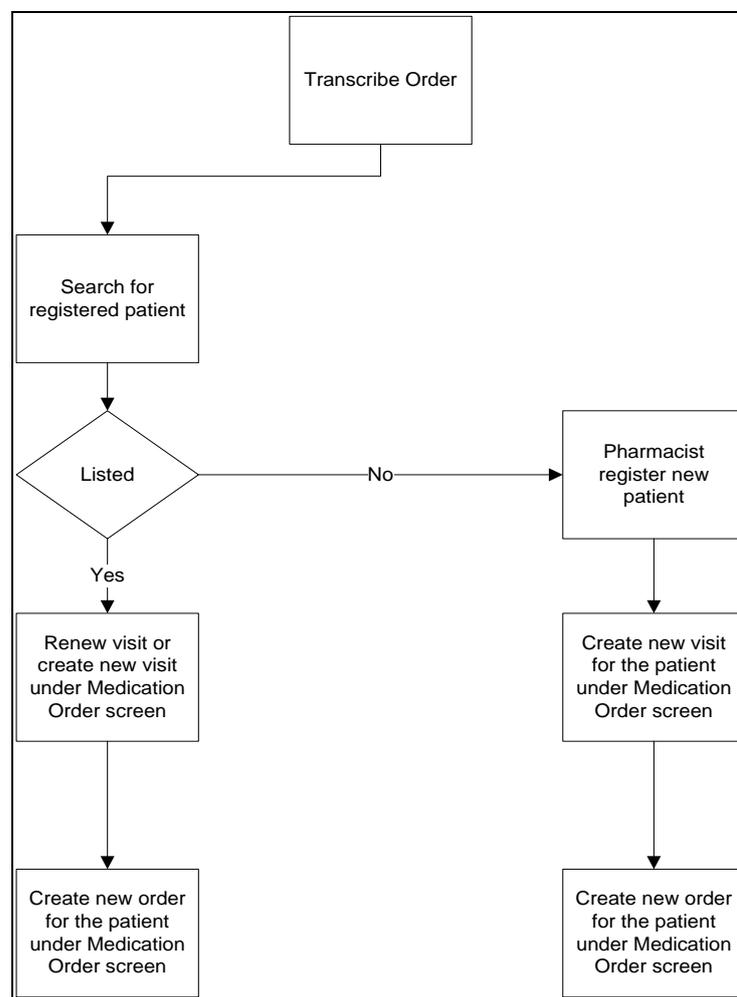
#### Overview

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

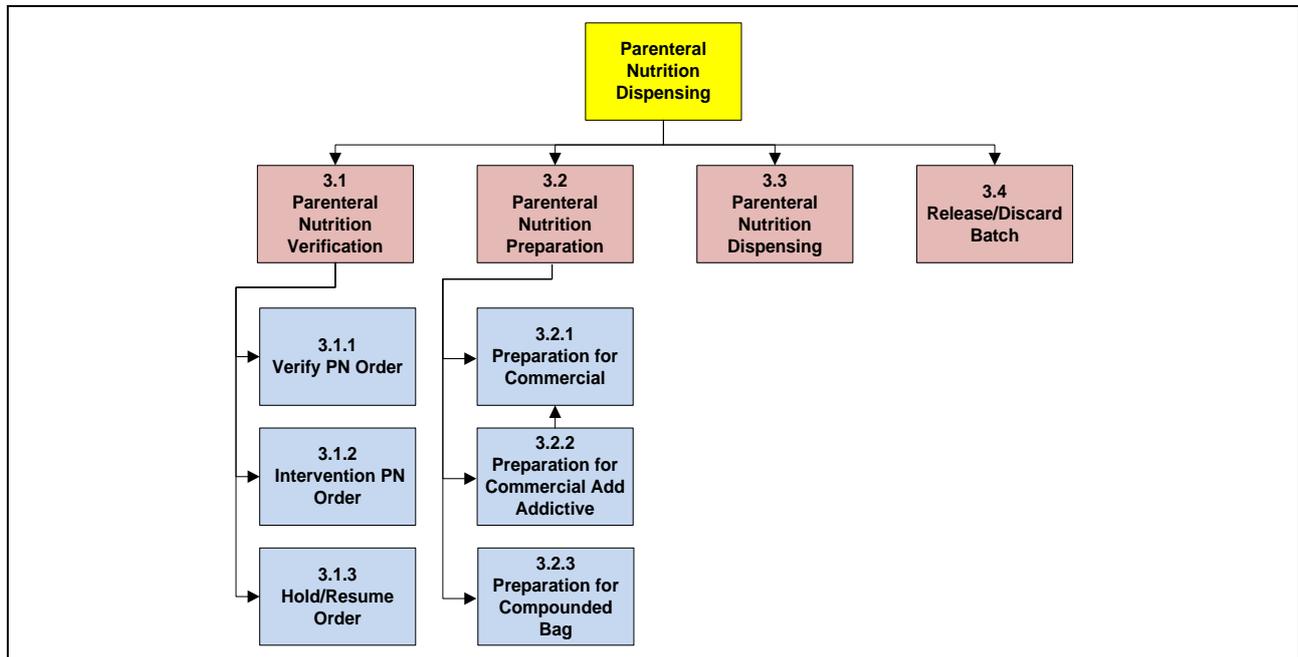


Figure 3.0-1

### 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.

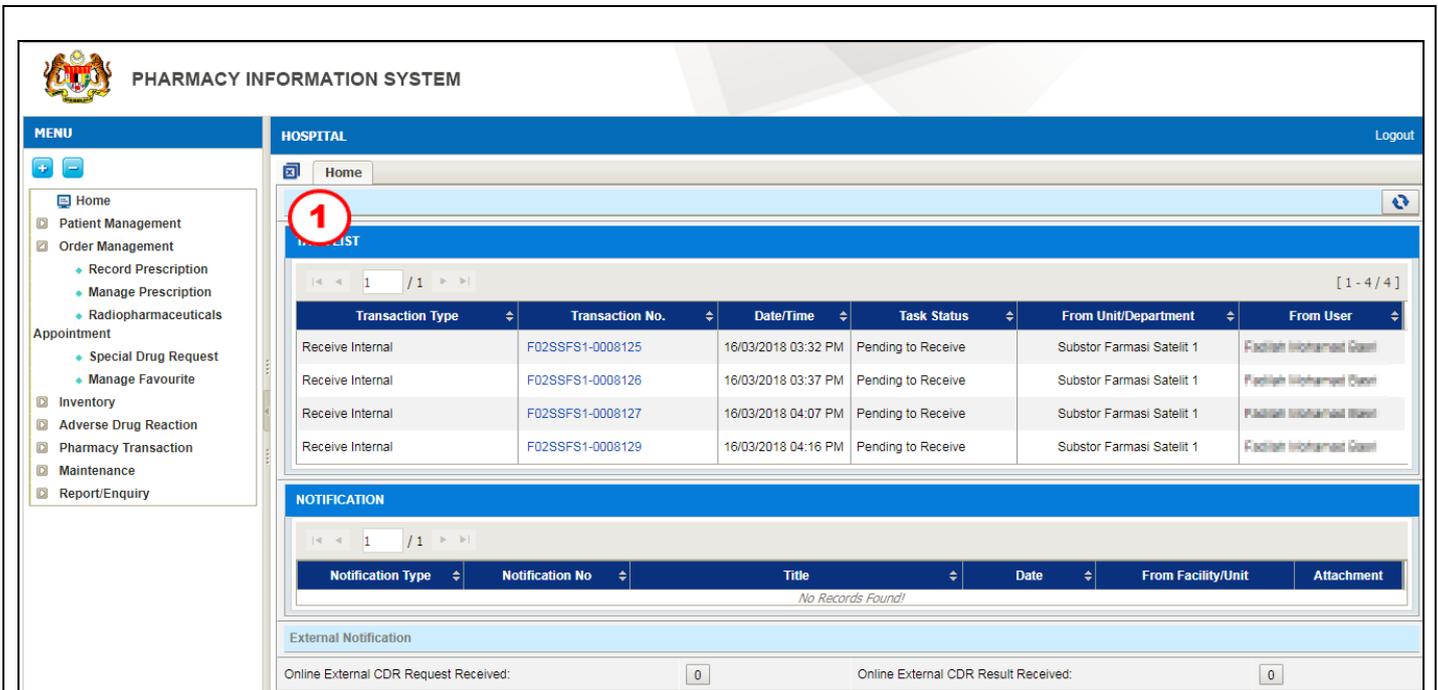


Figure 3.1-1 PhIS Home page

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

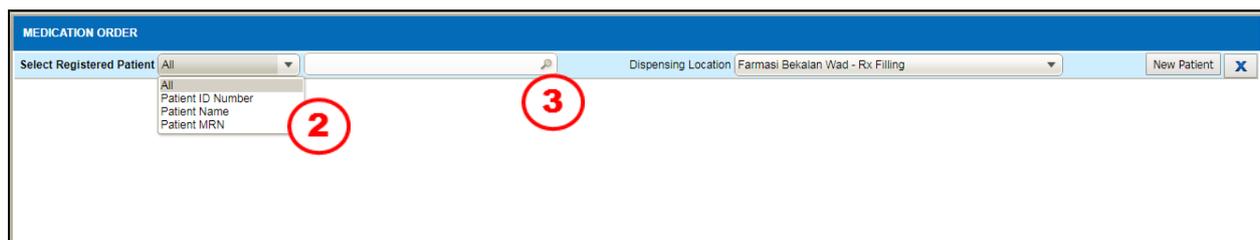


Figure 3.1-2 Medication Order

#### STEP 2

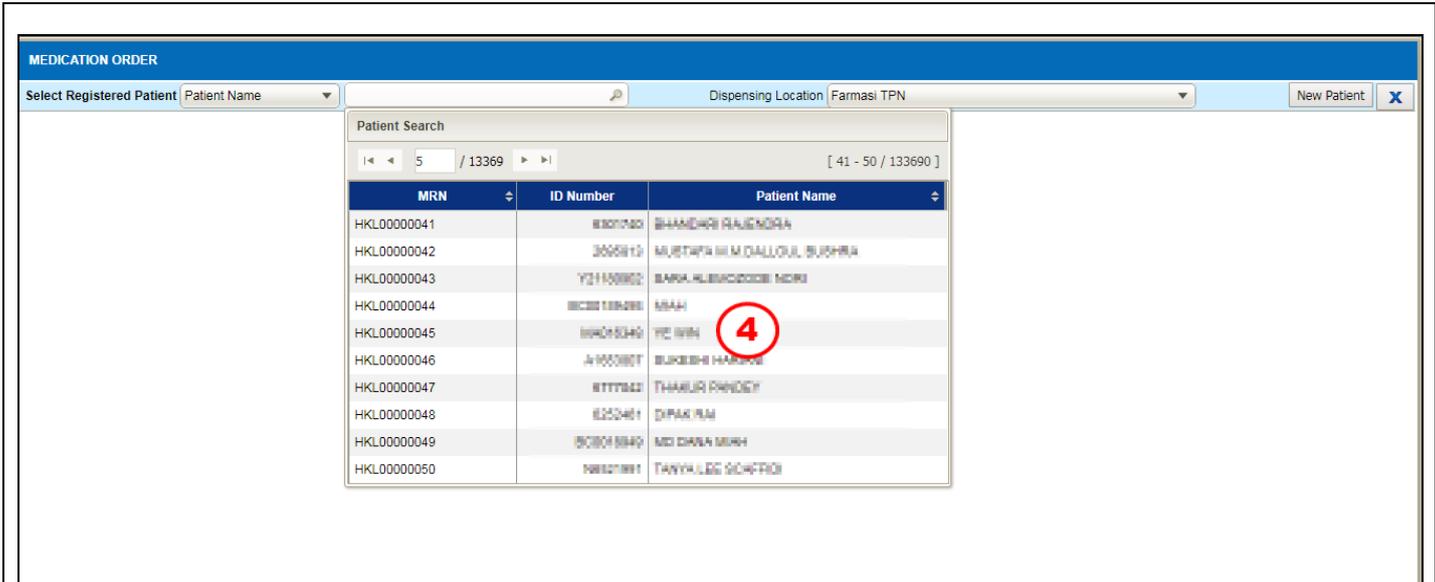
Select registration type from dropdown box

#### 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.



MRN	ID Number	Patient Name
HKL0000041	830740	SHAMAH RAJENDRA
HKL0000042	360813	MUSTAFA M M DIALLOU BUSHRA
HKL0000043	Y2110082	BARA KUBACKOBI NORA
HKL0000044	83071828	MAH
HKL0000045	19405349	YE YEH
HKL0000046	4100087	BURDISH HANSON
HKL0000047	877782	THANUS PANDIT
HKL0000048	825041	DIPAK RAM
HKL0000049	90048849	MU CHAN MUIH
HKL0000050	9802181	TAVYALEC GOACTON

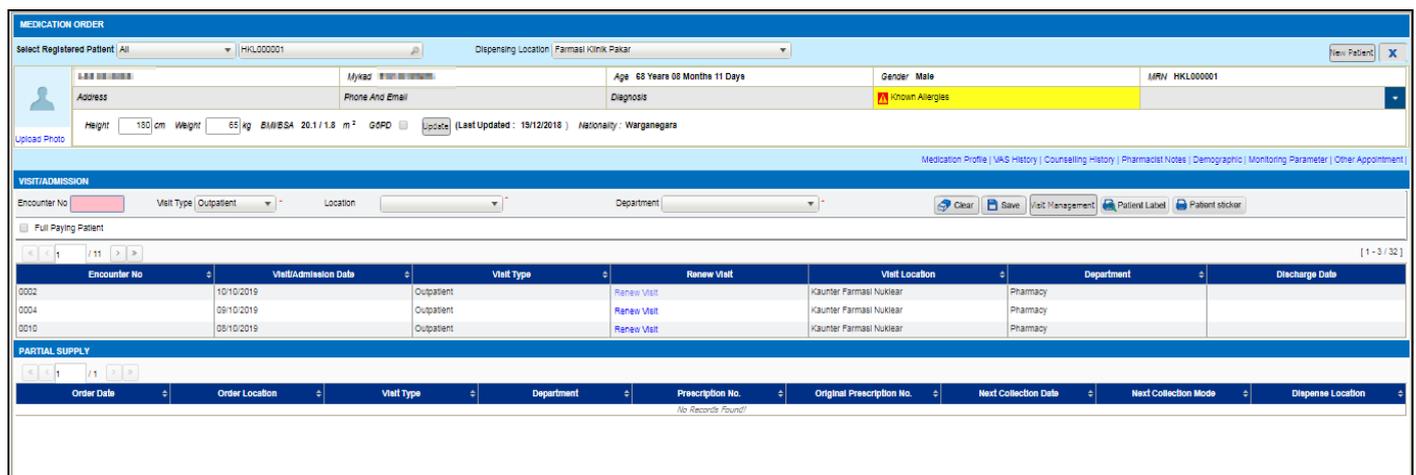
Figure 3.1-3 Search Patient

**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  button to access to 'Visit Management' screen.



**Medication Order**

Select Registered Patient: All | HKL000001 | Dispensing Location: Farmasi Klinik Fakar

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

Address: [REDACTED] | Phone And Email: [REDACTED] | Diagnosis: [REDACTED] | Allergies: Known Allergies

Height: 180 cm | Weight: 65 kg | BMI: 20.1 | GPD: [REDACTED] | Last Updated: 19/12/2018 | Nationality: Warganegara

**VISIT/ADMISSION**

Encounter No: [REDACTED] | Visit Type: Outpatient | Location: [REDACTED] | Department: [REDACTED]

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

Mykad: [redacted] | Age: 68 Years 08 Months 11 Days | Gender: Male | I/M/N: HKL000001

Address: [redacted] | Phone And Email: [redacted] | Diagnosis: [redacted]

Height: 180 cm | Weight: 65 kg | BMI/BSA: 20.1 / 1.8 m<sup>2</sup> | GSPD: [redacted] | Update (Last Updated: 19/12/2018) | Nationality: Warganegara

**VISIT/ADMISSION**

Encounter No: [redacted] | Visit Type: Outpatient | Location: [redacted] | Department: [redacted]

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	08/10/2019	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

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

Mykad: [redacted] | Age: 68 Years 08 Months 11 Days | Gender: Male | I/M/N: HKL000001

Address: [redacted] | Phone And Email: [redacted] | Diagnosis: [redacted]

Height: 180 cm | Weight: 65 kg | BMI/BSA: 20.1 / 1.8 m<sup>2</sup> | GSPD: [redacted] | Update (Last Updated: 10/10/2019) | Nationality: Warganegara

**VISIT/ADMISSION**

Encounter No: 0002 | Visit Type: Outpatient | Location: Kaunter Farmasi Nuklear | Department: Pharmacy

**PARTIAL SUPPLY**

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

**NORMAL ORDER - DRUG DETAILS**

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

Advanced Search: [redacted]

Options:  Claim Medication,  Ward Stock,  Patient Require Counseling

Buttons: View Order, Draft, Confirm

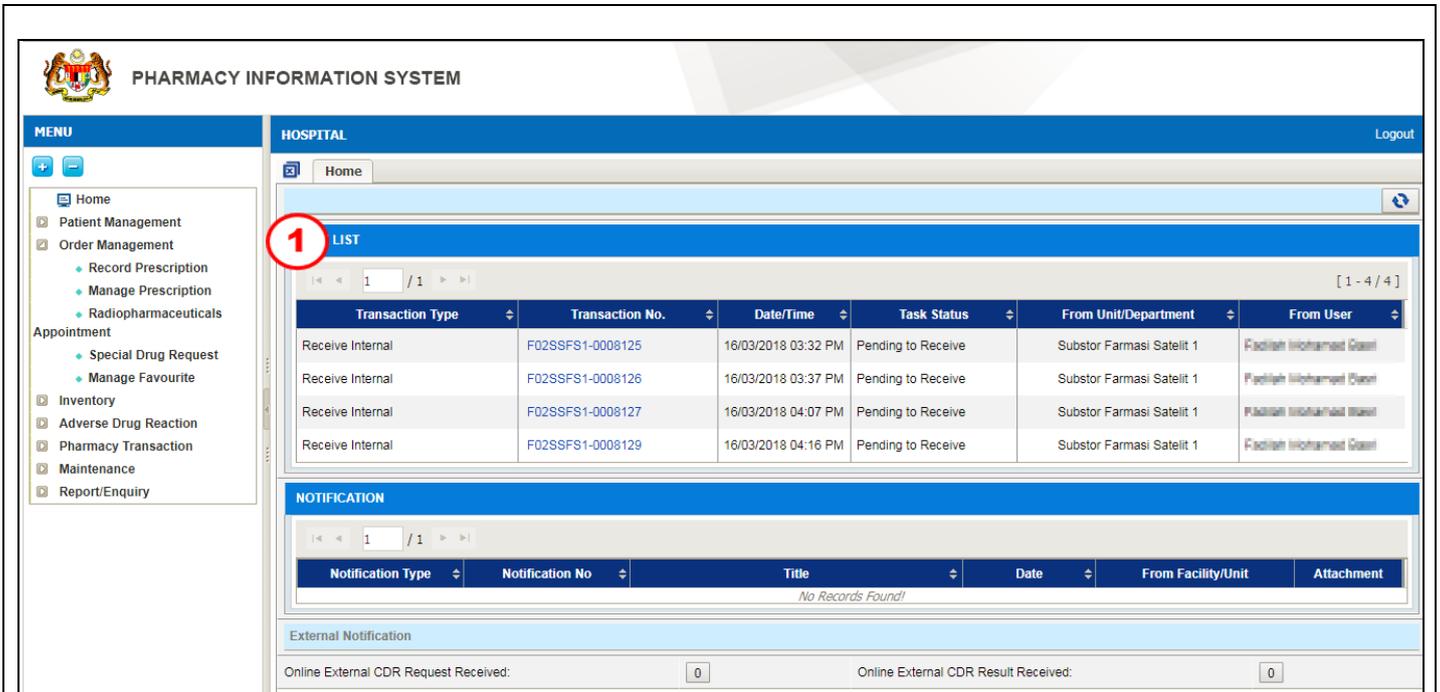
Total Price: RM 0.00

Alert	Drug Name	Order Details	Order Qty	Drug Info

Figure 3.1-6 Medication Order Detail

### 3.2 New Patient Registration

This page is used to register new patient



**PHARMACY INFORMATION SYSTEM**

**MENU**

- Home
- Patient Management
- Order Management
  - Record Prescription
  - Manage Prescription
  - Radiopharmaceuticals
- Appointment
  - Special Drug Request
  - Manage Favourite
- Inventory
- Adverse Drug Reaction
- Pharmacy Transaction
- Maintenance
- Report/Enquiry

**HOSPITAL** Logout

Home

**1 LIST** [ 1 - 4 / 4 ]

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**

[ 1 - 1 / 1 ]

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

External Notification

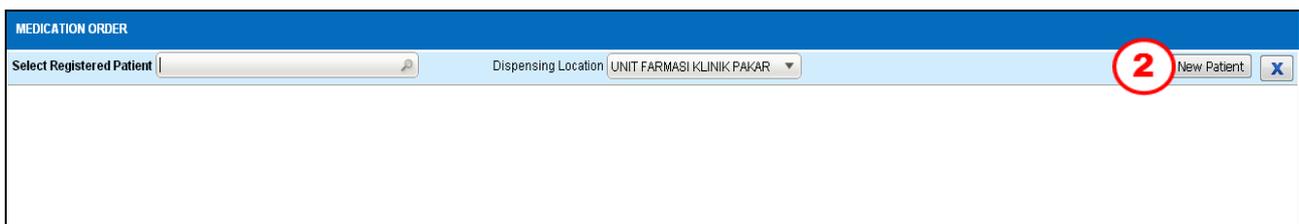
Online External CDR Request Received:  Online External CDR Result Received:

**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  Dispensing Location  **2** New Patient

**Figure 3.2-2 Transcribe Order Create New Patient**

**STEP 2**

Click on the  to register for new patient

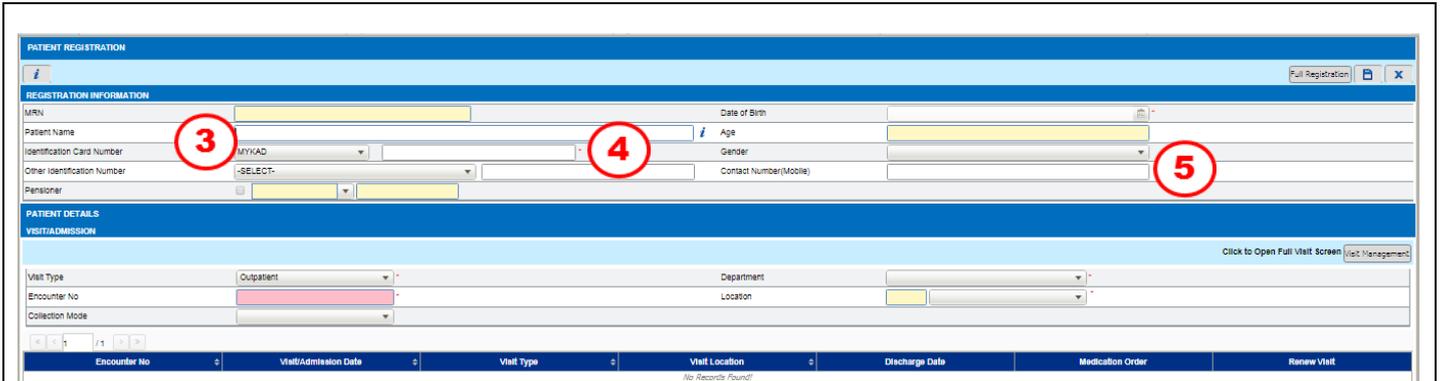


Figure 3.2-3 Registration Information

### 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 Permitand enter the relevant number.

### STEP 5

Enter **Contact Number (Mobile)**

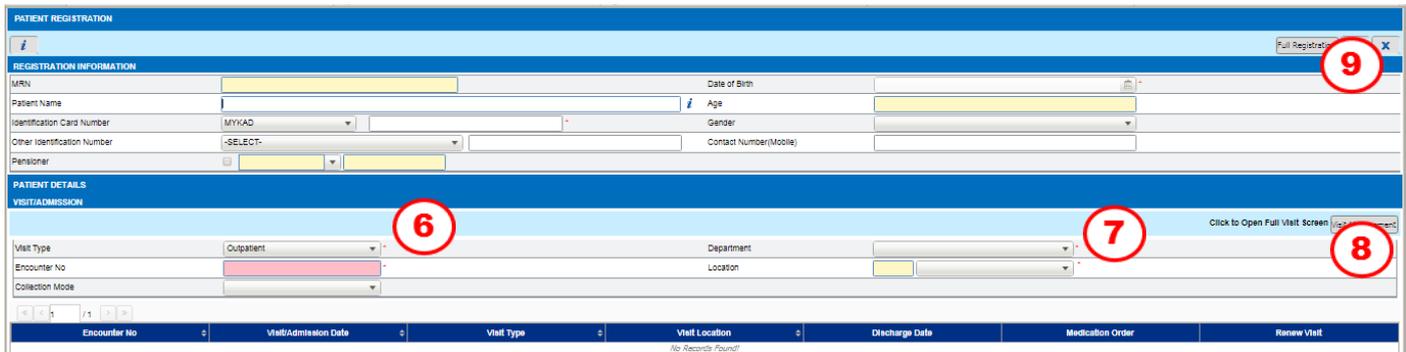


Figure 3.2-4 Visit/Admission

### 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**

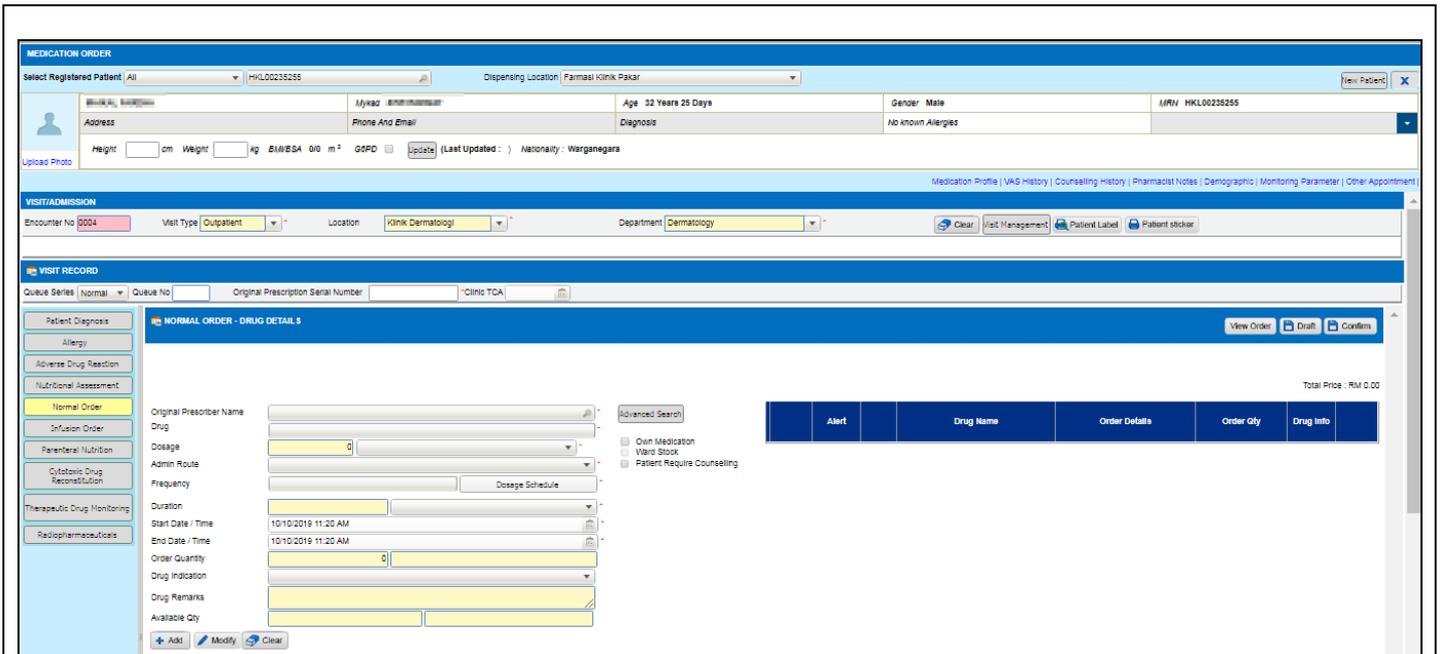
**Location** will tie to the selected Department.

### 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  button to access to 'Visit Management' screen.
- Another option to register a new patient is to click on the  button located under Patient Quick Registration that will display the same screen as Figure 3.2-3.



**MEDICATION ORDER**

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

Mykad: 8808080808080808 | Age: 32 Years 25 Days | Gender: Male | MRN: HKL00235255

Address: | Phone And Email: | Diagnosis: | No known Allergies

Height: cm | Weight: kg | BMI/BSA: 0/0 m<sup>2</sup> | G6PD:  | Update (Last Updated: ) | Nationality: Warganegara

**VISIT/ADMISSION**

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

**VISIT RECORD**

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

**NORMAL ORDER - DRUG DETAILS**

Original Prescriber Name: | Drug: | Dosage: | Admin Route: | Frequency: | Duration: | Start Date / Time: 10/10/2019 11:20 AM | End Date / Time: 10/10/2019 11:20 AM | Order Quantity: | Drug Indication: | Drug Remarks: | Available Qty: |

Advanced Search:  Own Medication |  Ward Stock |  Patient Require Counselling

Alert	Drug Name	Order Details	Order Qty	Drug Info

Total Price: RM 0.00

Buttons: Add, Modify, Clear

**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

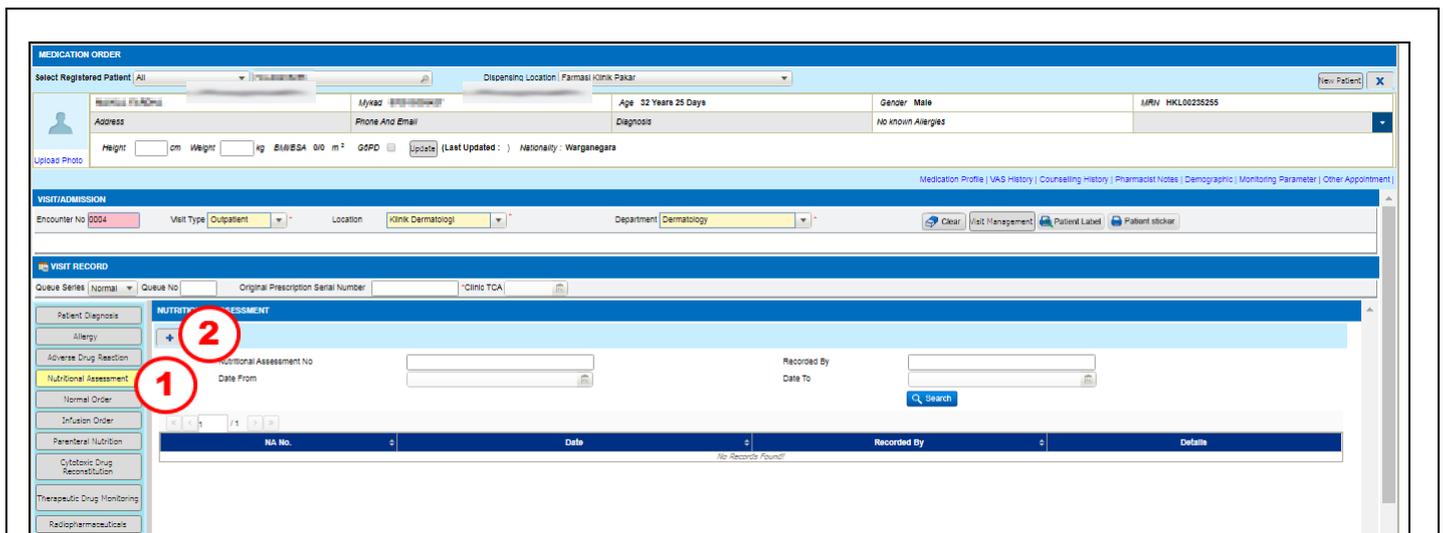


Figure 4.1-1 Nutritional Assessment

#### 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

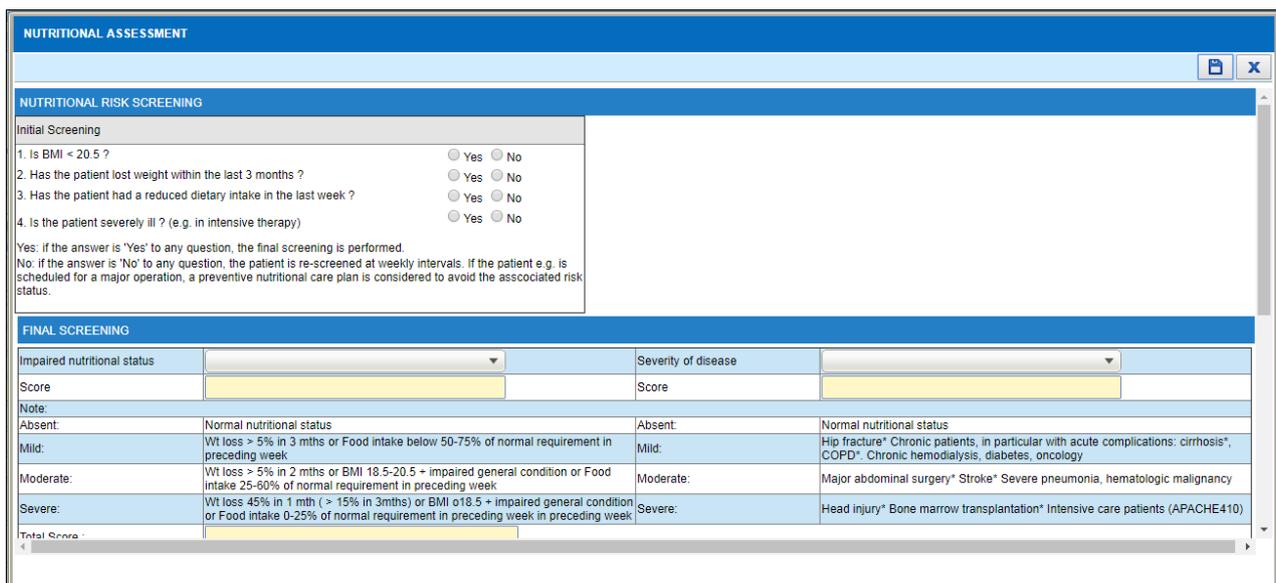


Figure 4.1-2 Nutritional Assessment

#### 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.

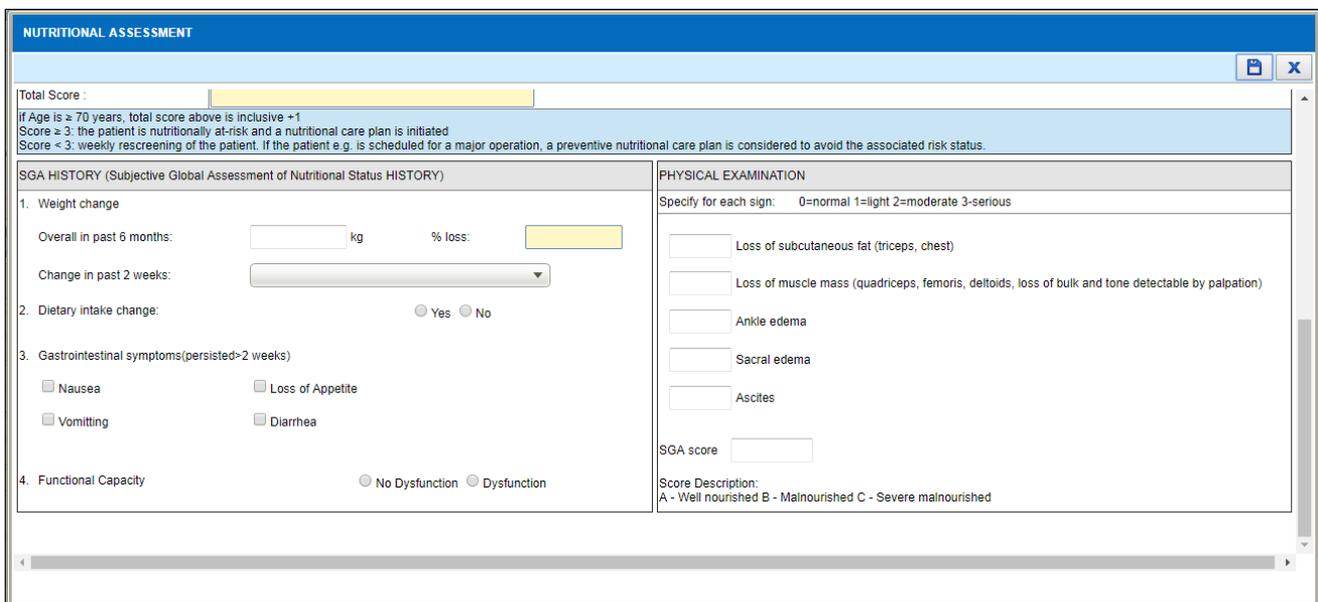


Figure 4.1-3 Nutritional Assessment

**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.

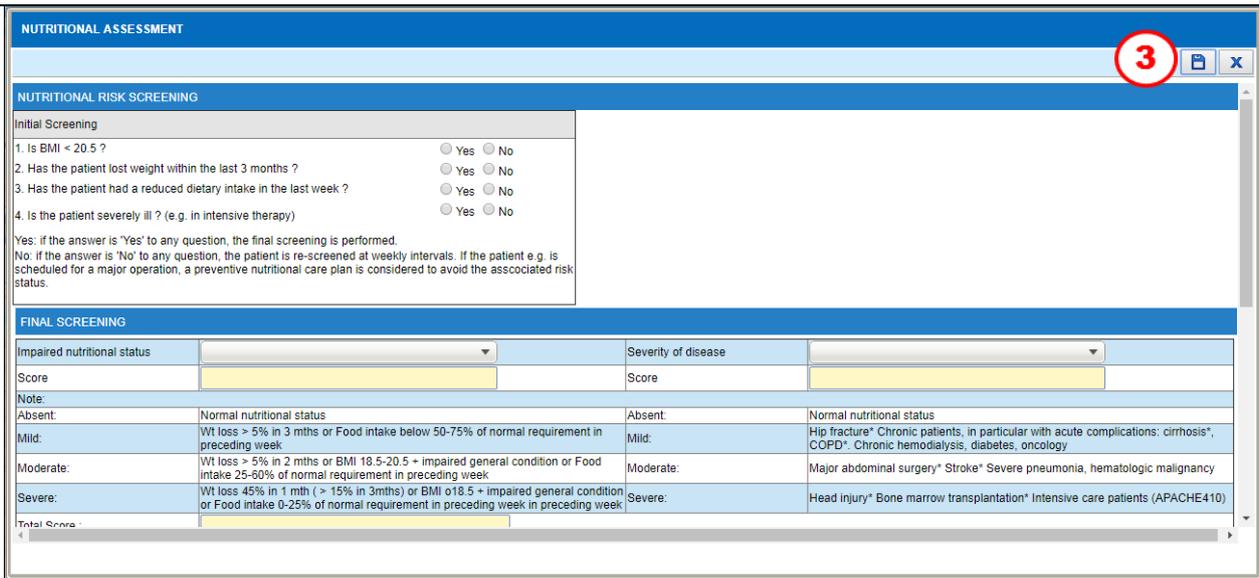


Figure 4.1-4 Nutritional Assessment

**STEP 3**

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

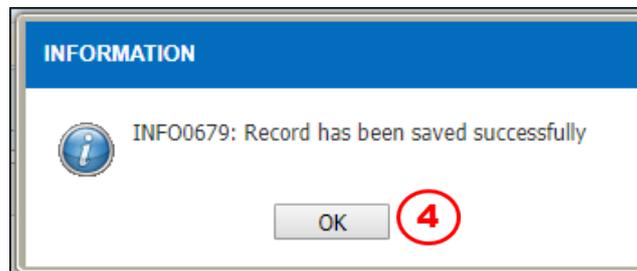


Figure 4.1-5 Information Alert Message

**STEP 4**

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

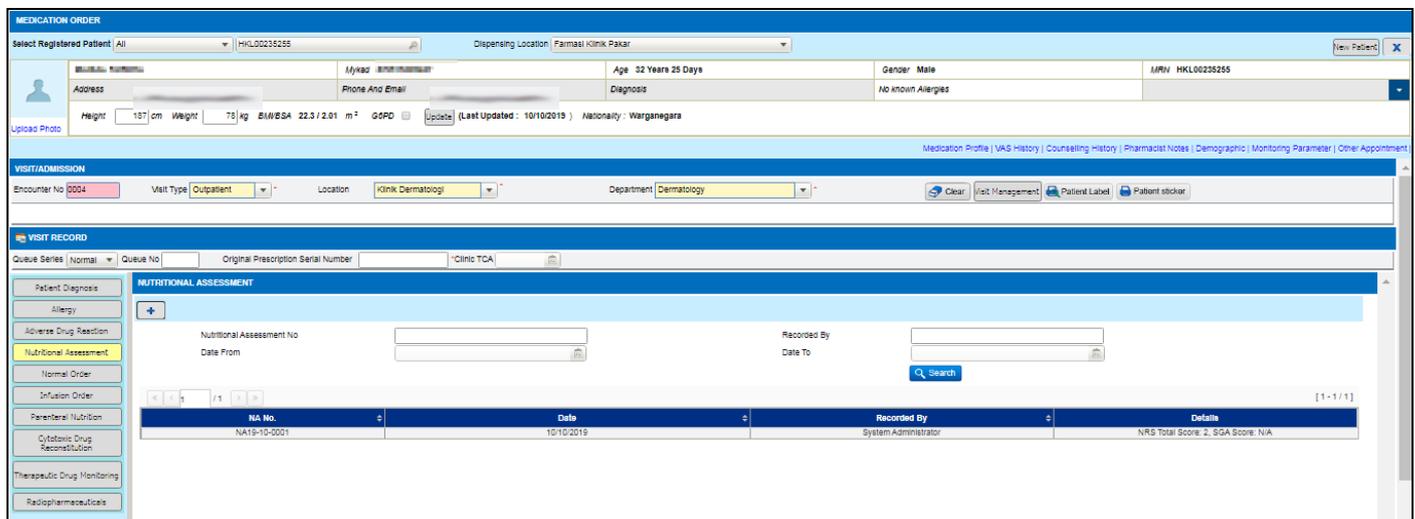
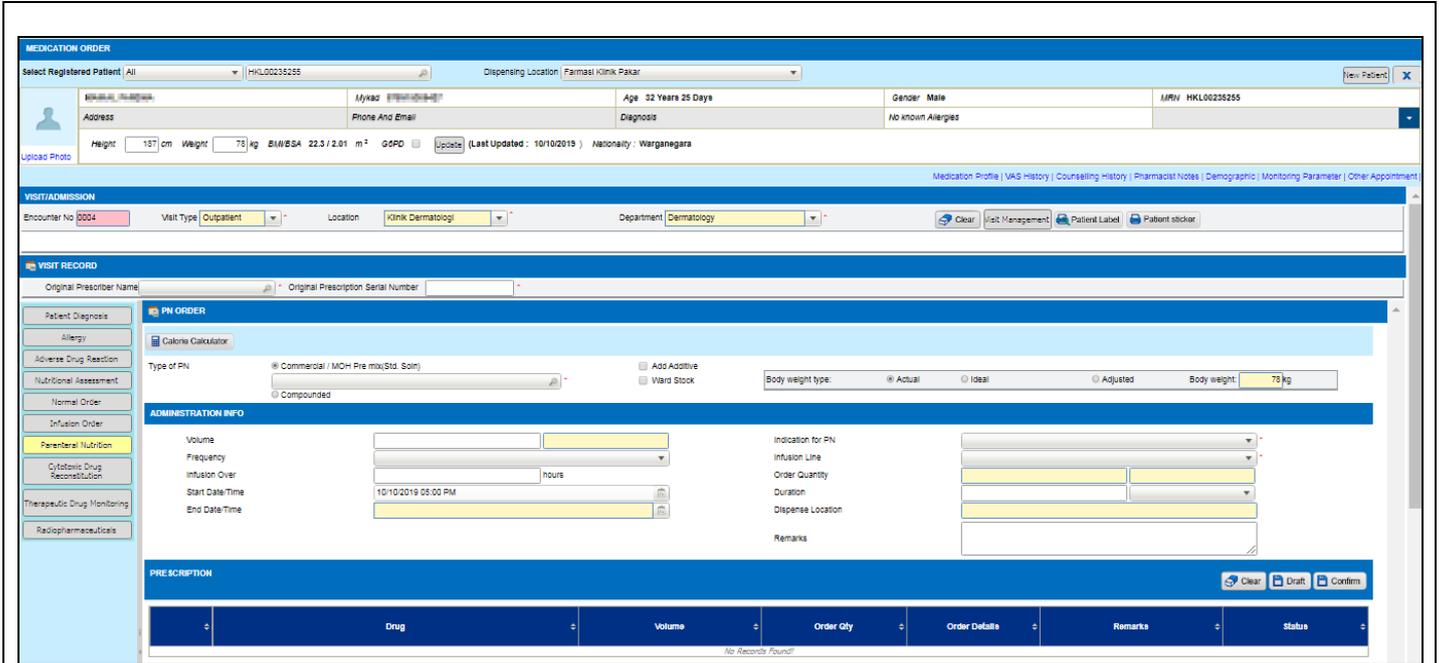


Figure 4.1-6 Nutritional Assessment Listing

## 4.2 Calorie Calculator

To calculate patient's calorie

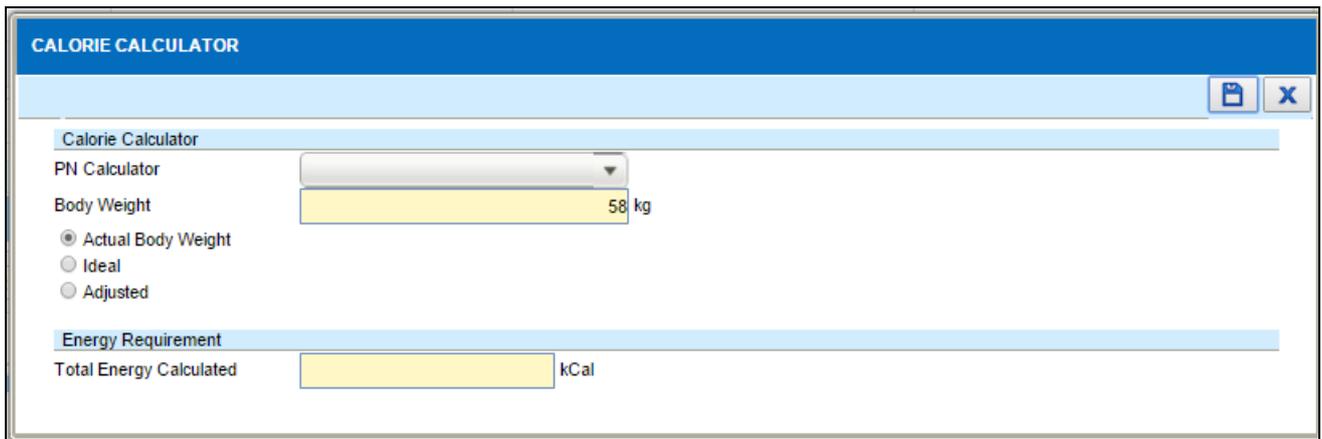


The screenshot shows the 'MEDICATION ORDER' interface. At the top, there are fields for 'Select Registered Patient' (All), 'HKL00235255', and 'Dispensing Location' (Farmasi Klinik Fakar). Below this is a patient information section with fields for 'Mykad', 'Age' (32 Years 25 Days), 'Gender' (Male), 'Address', 'Phone And Email', 'Diagnosis', and 'M/RN' (HKL00235255). A 'Calorie Calculator' button is visible in the 'PN ORDER' section. The 'ADMINISTRATION INFO' section contains fields for 'Volume', 'Frequency', 'Infusion Over', 'Start Date/Time', and 'End Date/Time'. The 'PRESCRIPTION' section at the bottom has a table with columns: Drug, Volume, Order Qty, Order Details, Remarks, and Status.

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 the 'CALORIE CALCULATOR' screen. It features a 'Calorie Calculator' title bar. Below the title bar, there is a 'PN Calculator' dropdown menu. The 'Body Weight' field is set to '58 kg'. There are three radio button options: 'Actual Body Weight' (selected), 'Ideal', and 'Adjusted'. The 'Energy Requirement' section shows the 'Total Energy Calculated' field, which is currently empty, followed by the unit 'kCal'.

Figure 4.2-2 Calorie Calculator

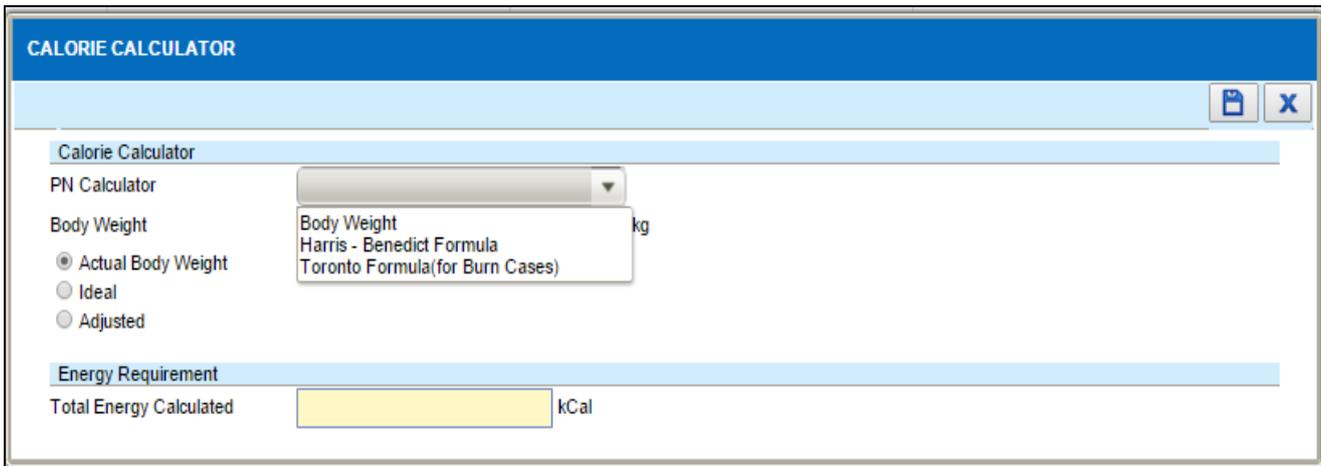


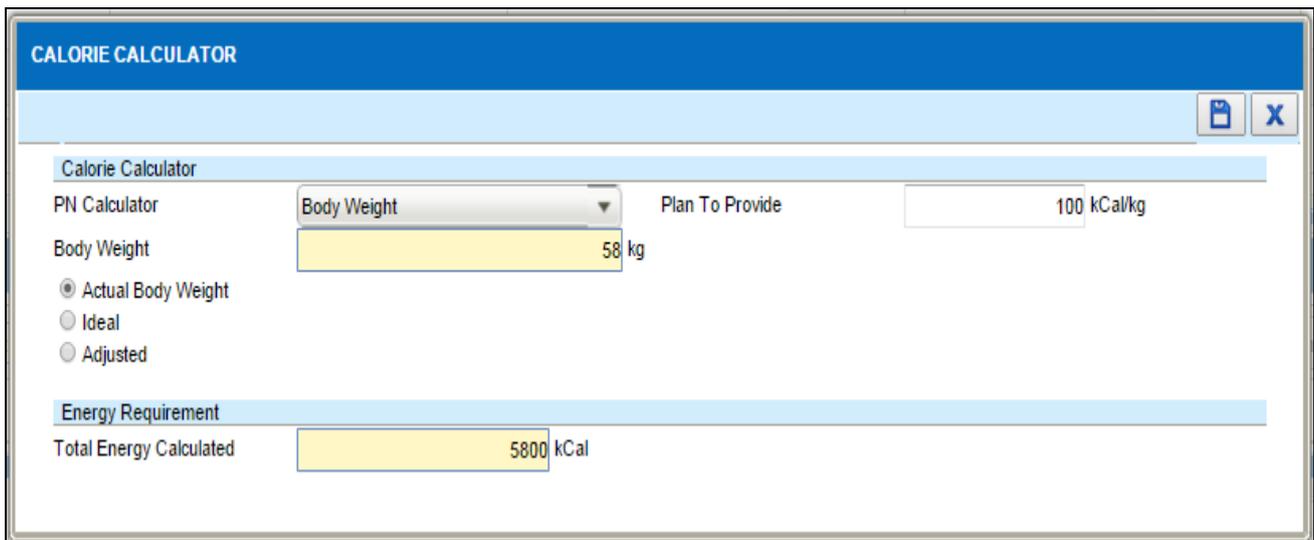
Figure 4.2-3 Calorie Calculator

**Note**

- By default the 'Body Weight' radio button will auto select the

Actual Body Weight 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)



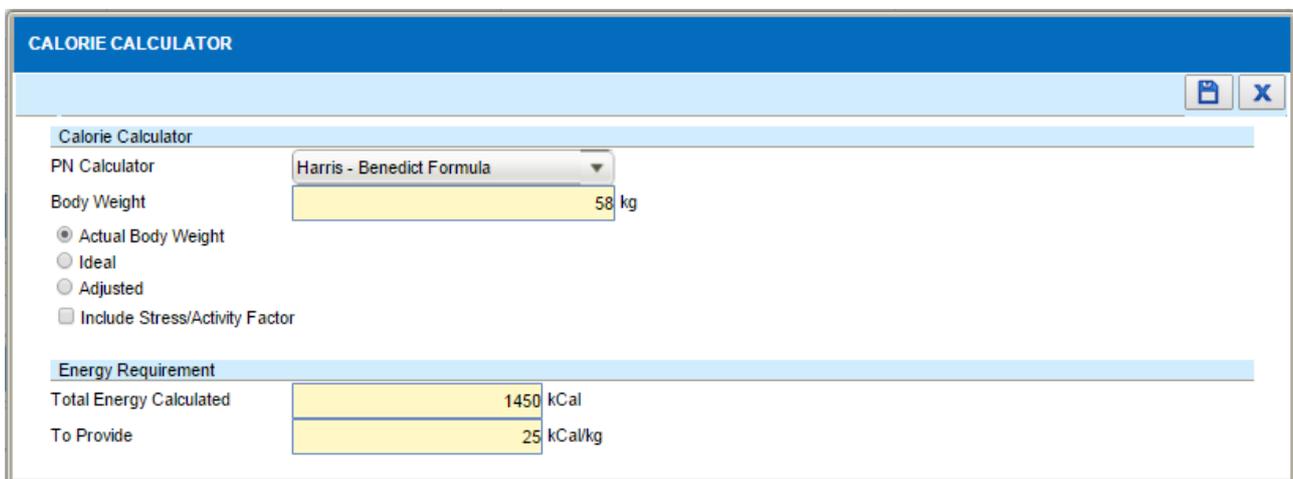
The screenshot shows a software window titled "CALORIE CALCULATOR". It features a blue header bar with the title and window control buttons (save and close). Below the header, there is a section for "Calorie Calculator" with a dropdown menu set to "PN Calculator" and a "Plan To Provide" field set to "100 kCal/kg". The "Body Weight" field is set to "58 kg". Underneath, there are three radio buttons: "Actual Body Weight" (selected), "Ideal", and "Adjusted". A section titled "Energy Requirement" shows "Total Energy Calculated" as "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.



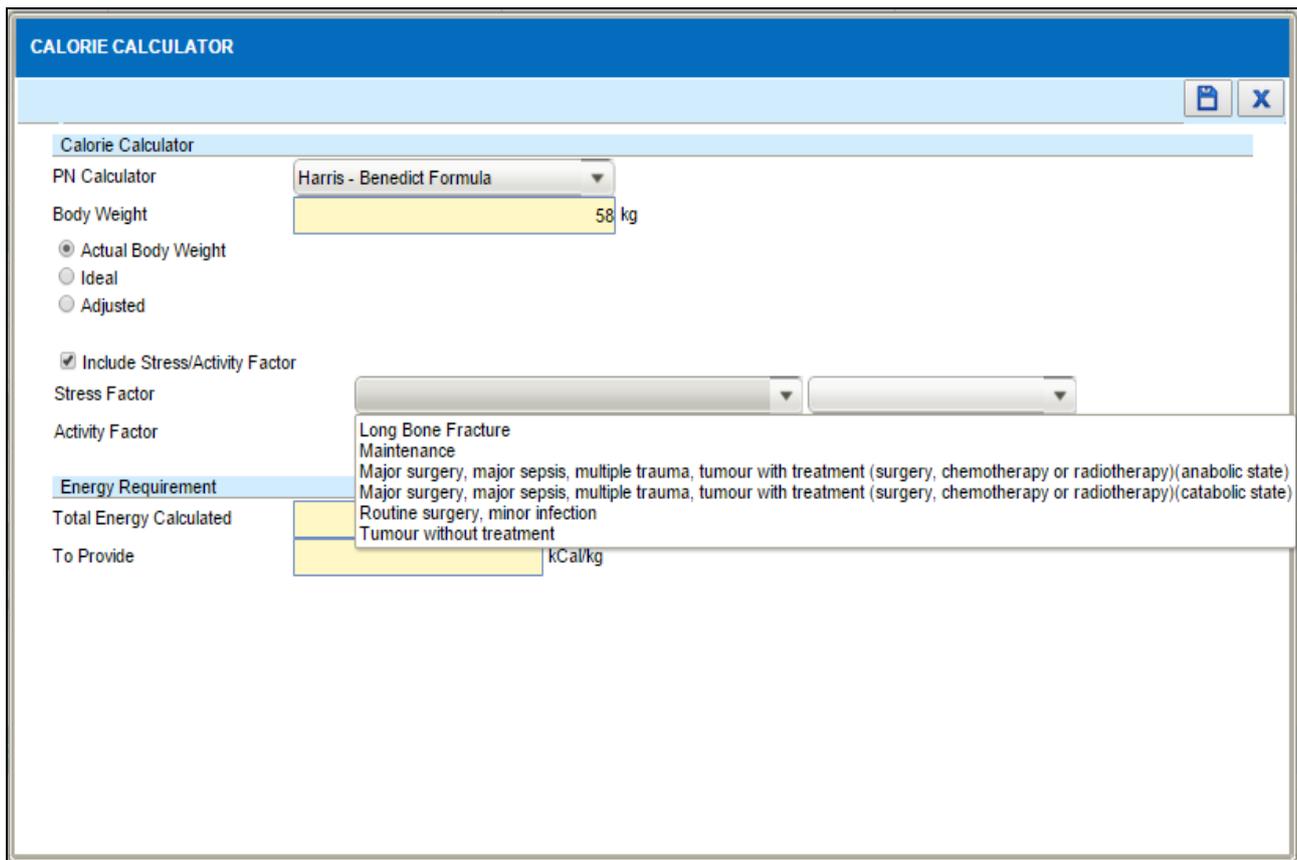
The screenshot shows the same "CALORIE CALCULATOR" window. The "PN Calculator" dropdown menu is now set to "Harris - Benedict Formula". The "Body Weight" field remains "58 kg". There are four radio buttons: "Actual Body Weight" (selected), "Ideal", "Adjusted", and "Include Stress/Activity Factor" (unchecked). The "Energy Requirement" section shows "Total Energy Calculated" as "1450 kCal" and "To Provide" as "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.

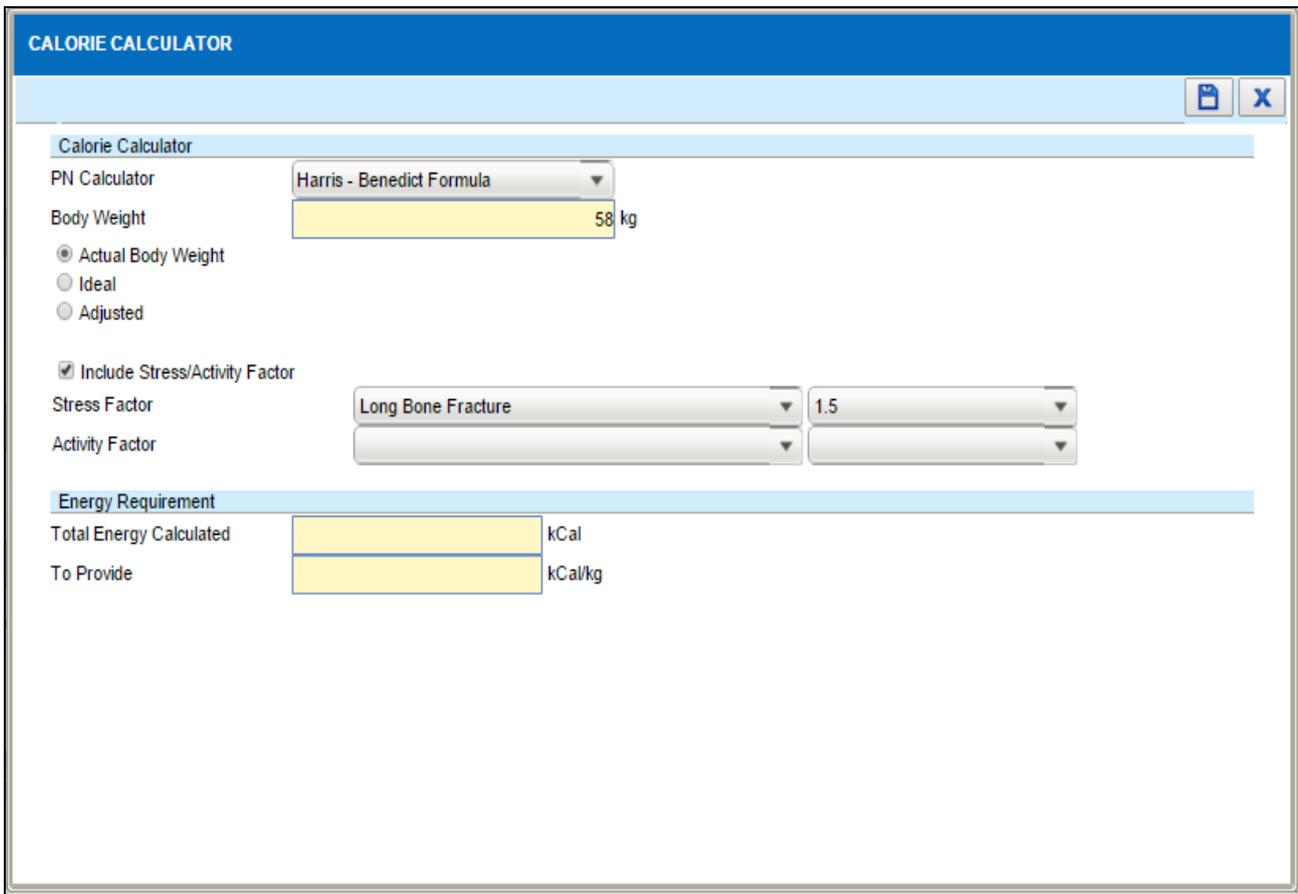


**Figure 4.2-6 Calorie Calculator**

**Note**

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

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



**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: [ ]    [ ]

**Energy Requirement**

Total Energy Calculated: [ ] kCal

To Provide: [ ] kCal/kg

Figure 4.2-7 Calorie Calculator

**Note**

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

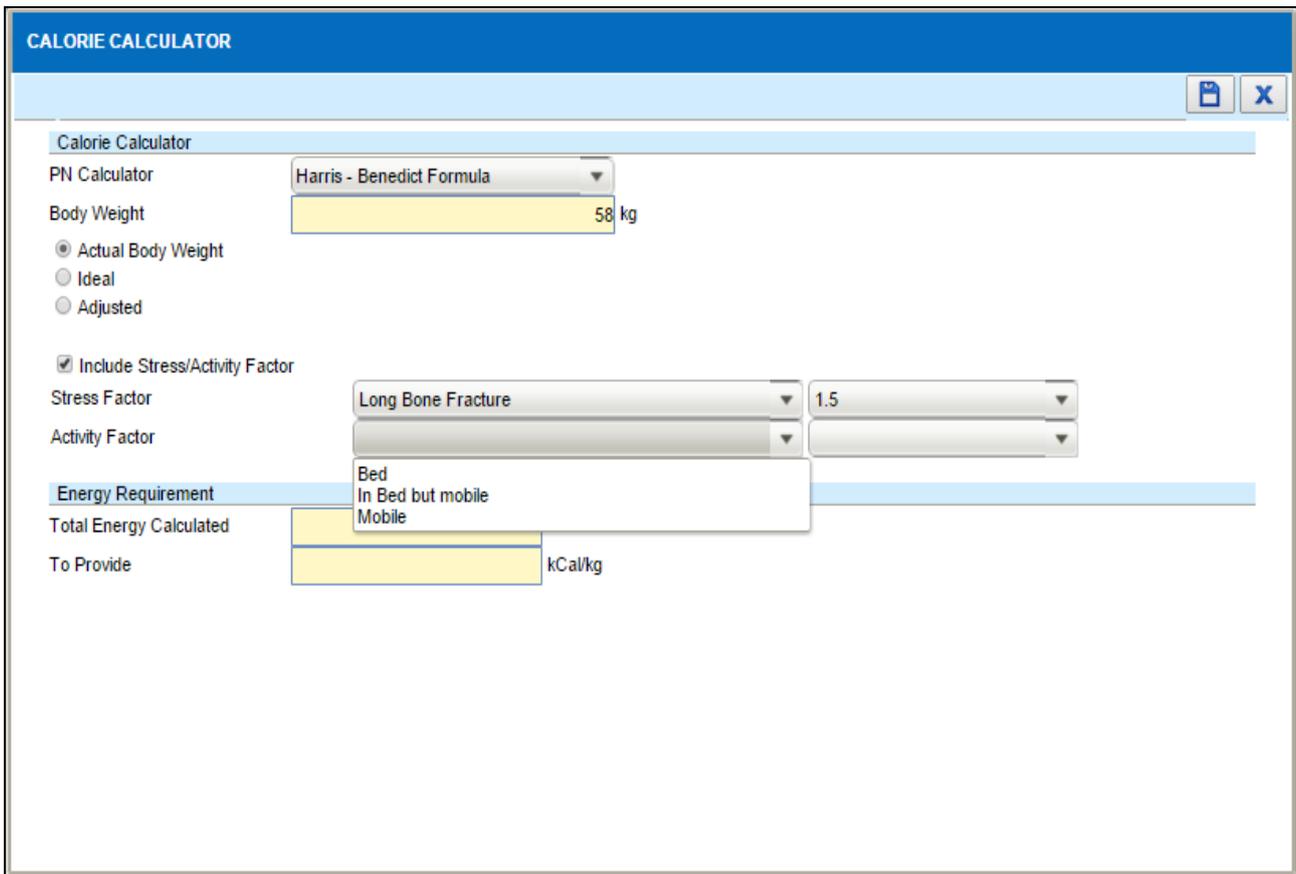
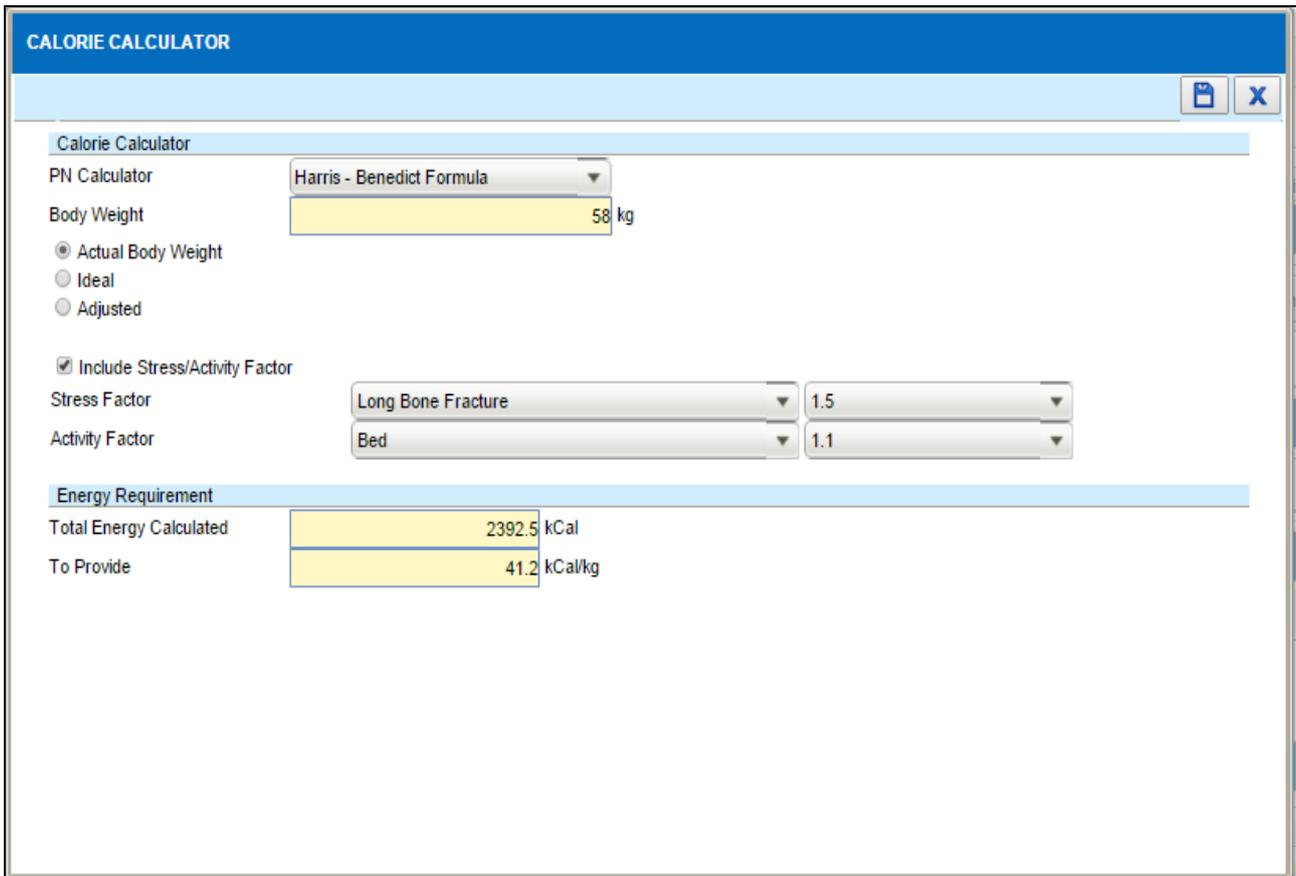


Figure 4.2-8 Calorie Calculator

**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
<input checked="" type="radio"/> Actual Body Weight <input type="radio"/> Ideal <input type="radio"/> Adjusted	
<input checked="" type="checkbox"/> 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

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.

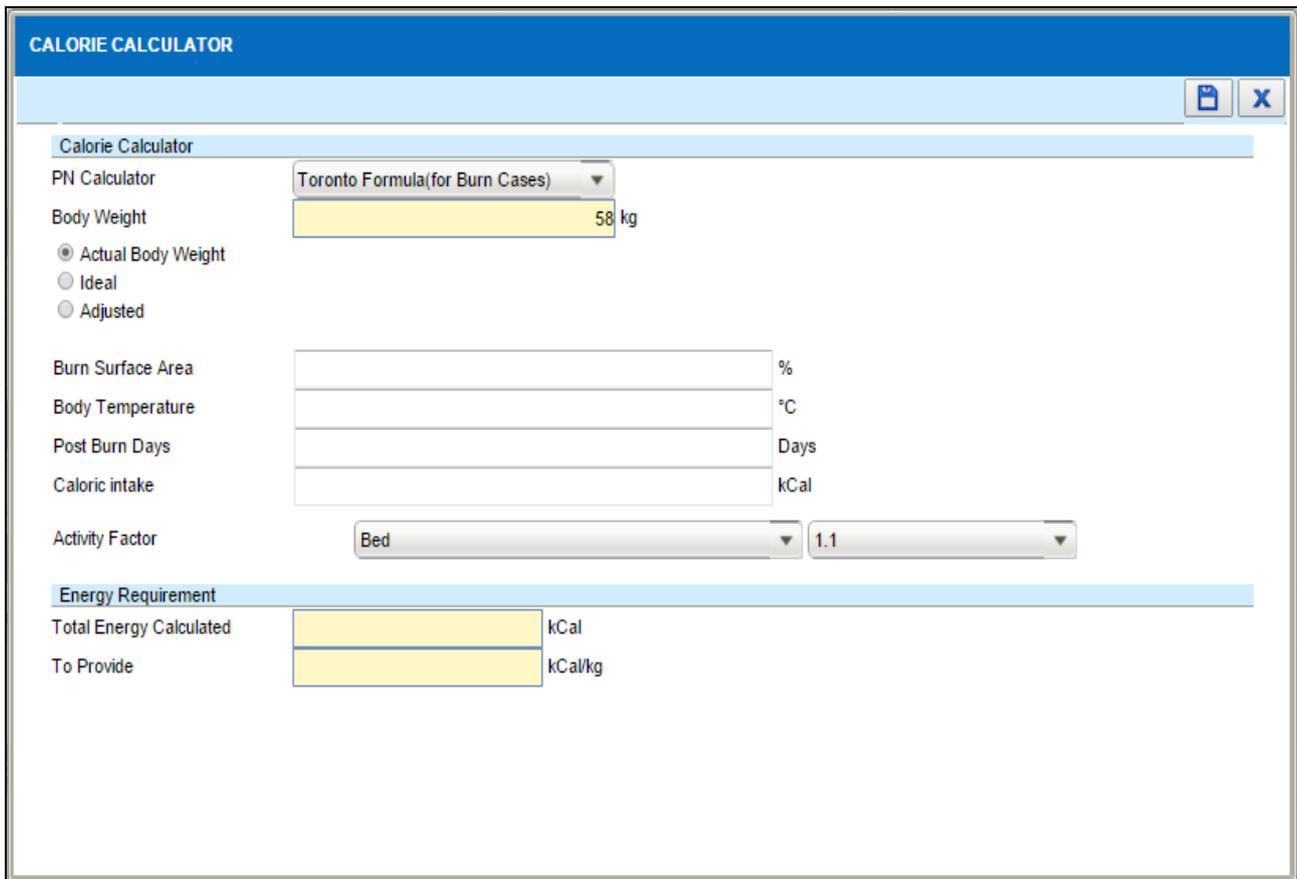


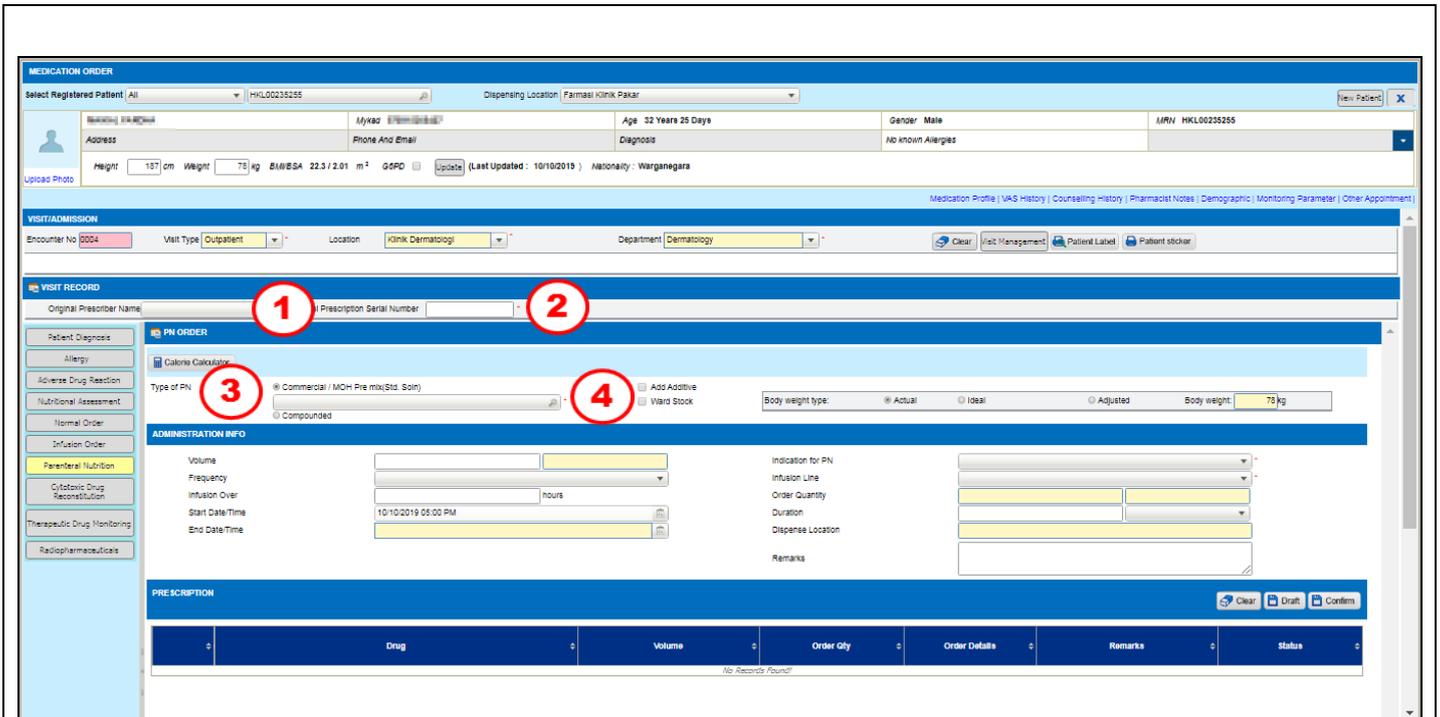
Figure 4.2-10 Calorie Calculator

**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)



The screenshot shows the 'MEDICATION ORDER' form for a patient named Myxaz. The 'VISIT RECORD' section shows the 'Original Prescriber Name' field (1) and the 'Prescription Serial Number' field (2). The 'PN ORDER' section shows the 'Type of PN' dropdown menu (3) set to 'Commercial / MOH Pre mix(Std. Soln)' and the 'Add Additive' checkbox (4) checked. The 'ADMINISTRATION INFO' section shows fields for Volume, Frequency, Infusion Over, Start Date/Time, and End Date/Time. The 'PRESCRIPTION' table at the bottom is currently empty.

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

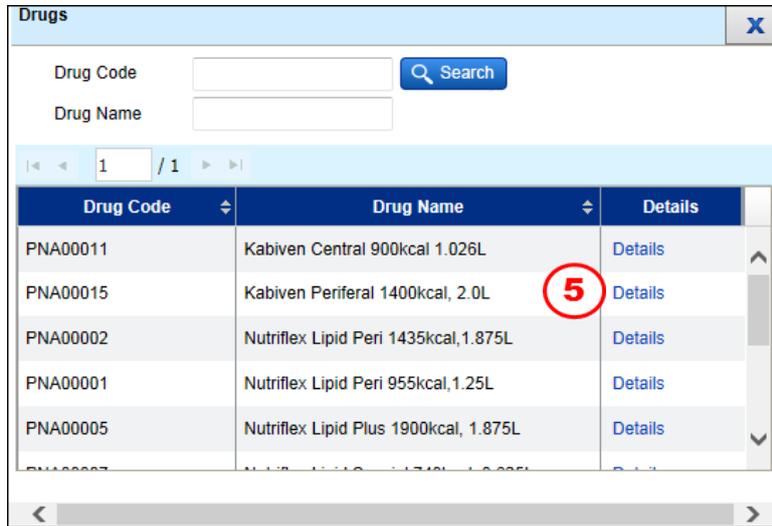
Enter the **Original Prescription Serial Number**

#### 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



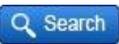
Drug Code	Drug Name	Details
PNA00011	Kabiven Central 900kcal 1.026L	<a href="#">Details</a>
PNA00015	Kabiven Periferal 1400kcal, 2.0L	<a href="#">Details</a>
PNA00002	Nutriflex Lipid Peri 1435kcal, 1.875L	<a href="#">Details</a>
PNA00001	Nutriflex Lipid Peri 955kcal, 1.25L	<a href="#">Details</a>
PNA00005	Nutriflex Lipid Plus 1900kcal, 1.875L	<a href="#">Details</a>

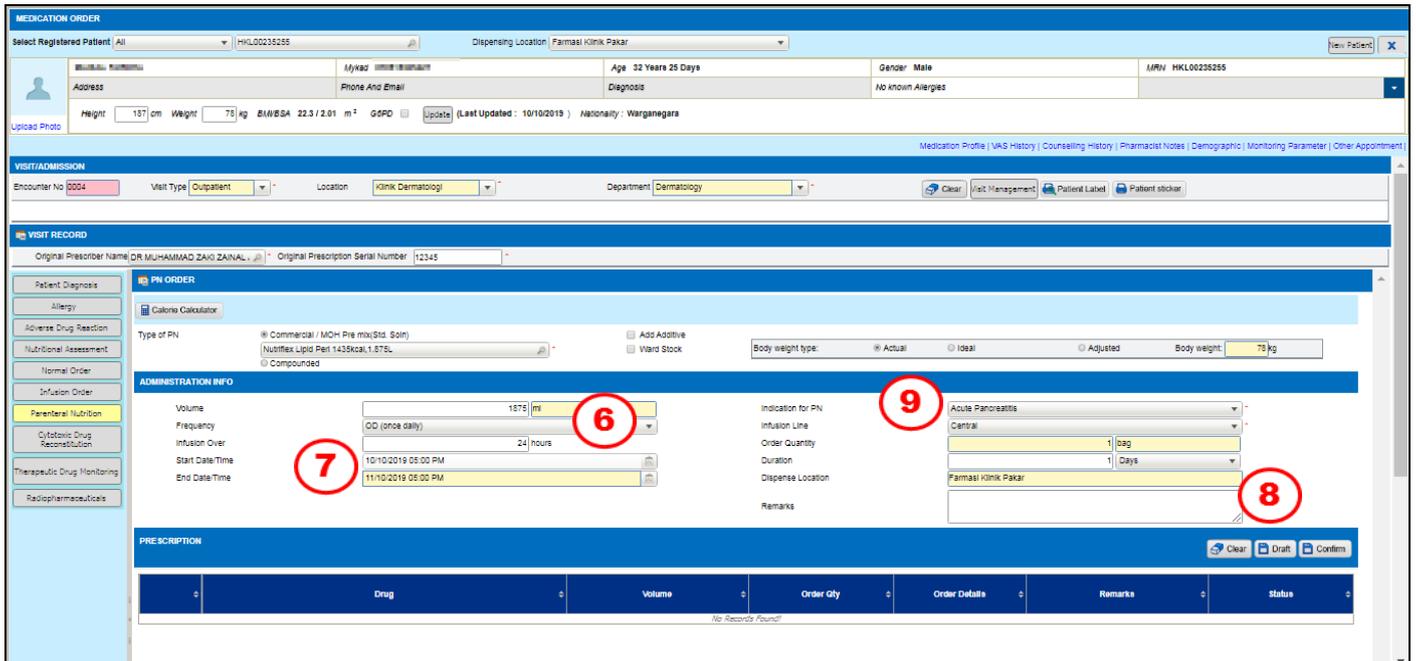
Figure 4.3-2 Drugs Listing

#### 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

Mykiaz | Mykiaz | Mykiaz | Age: 32 Years 25 Days | Gender: Male | M/N: HKL00235255

Address: | Phone And Email: | Diagnosis: | No known Allergies

Height: 157 cm | Weight: 75 kg | BMI/BSA: 22.3 / 2.01 m<sup>2</sup> | G/P/D: | 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 ZAIG ZAINAL | Original Prescription Serial Number: 12345

**PN ORDER**

Caloria Calculator

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

Adverse Drug Reaction: | Nutriflex Lipid Repl. 1435K28.1.875L |  Compounded

**ADMINISTRATION INFO**

Volume: 1575 ml (6) | Frequency: OD (once daily) | Indication for PN: Acute Pancreatitis (9)

Infusion Over: 24 hours | Infusion Line: Central | Order Quantity: 1 | BSG

Start Date/Time: 10/10/2019 05:00 PM (7) | Duration: 1 | Days | Dispense Location: Farmasi Klinik Pakar (8)

End Date/Time: 11/10/2019 05:00 PM

**PRESCRIPTION**

Drug	Volume	Order Qty	Order Details	Remarks	Status
No Records Found					

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

**MEDICATION ORDER**

Select Registered Patient: All | HHL00235255 | Dispensing Location: Farmasi Klinik Pakar

**Patient Information:** Mykaid, 32 Years 25 Days, Male, M/FN: HHL00235255

**VISIT/ADMISSION:** Encounter No: 0004, Visit Type: Outpatient, Location: Klinik Dermatology, Department: Dermatology

**VISIT RECORD:** Original Prescriber Name: DR MUHAMMAD ZAKI ZAHEDI, Original Prescription Serial Number: 12345

**PN ORDER:** Type of PN: Commercial / MCH Pre mix (Std Soln), Add Adstive:  Ward Stock:  Body weight type: Actual, Ideal, Adjusted, Body weight: 75 kg

**ADMINISTRATION INFO:**

Volume	1875 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
End Date/Time		Remarks	

**PRESCRIPTION:** Clear Draft Confirm

Drug	Volume	Order Qty	Order Details	Remarks	Status
No Records Found!					

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

**CONFIRMATION**

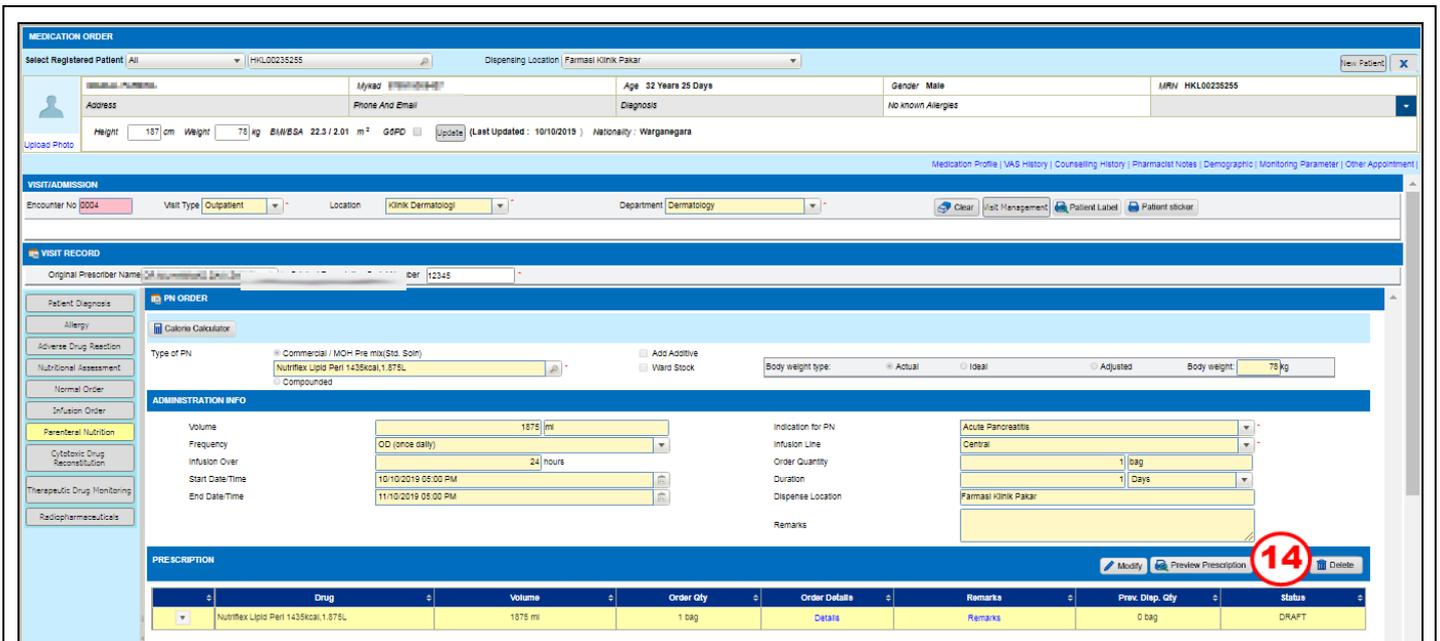
CONF0002: Are you sure you want to save?

Cancel Yes No

Figure 4.3-5 Information Alert message

**STEP 13**

Click on the **Yes** button to save order record



**MEDICATION ORDER**

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

Mykiaz | 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 m<sup>2</sup> | GFD: | 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: | ID: 12345

**PN ORDER**

Caloria Calculator

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

Indication for PN: Acute Pancreatitis

Infusion Line: Central

Order Quantity: 1 bag

Duration: 1 Days

Dispense Location: Farmasi Klinik Pakar

**ADMINISTRATION INFO**

Volume: 1575 ml

Frequency: OD (once daily)

Infusion Over: 24 hours

Start Date/Time: 10/10/2019 05:00 PM

End Date/Time: 11/10/2019 05:00 PM

**PRESCRIPTION**

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.



PN REMARKS	
Prescriber Remark	
Order Stage	Verified with food nutritionist
Pharmacist Remark	
Verification Stage	

Figure 4.3-9 PN Remarks

**Note**

'PN Remarks' screen as per Figure 4.3-9.

**Ministry Of Health, Malaysia**  
**HOSPITAL KUALA LUMPUR**  
**PARENTERAL NUTRITION**

**Patient Name:** MAMAL, FAROQIN      **Patient ID:** HKL1800407

**Age:** 32 Years 25 Days      **MRN:** HKL1800000

**Gender:** Male      **Prescription :** KD0000740999

**Height / Weight / BSA:** 187 cm/78 kg/2 m<sup>2</sup>      **Order Date / Time :**

**Room No / Bed:**      **Location:** Klinik Dermatologi

**Diagnosis:**      **Allergy:**

---

**TPN Order:** Nutriflex Lipid Peri 1435kcal,1.875L      **Order Quantity:** 1 bag

**Start Date/Time:** 10/10/2019 05:00 PM      **End Date/Time:** 11/10/2019 05:00 PM

	Content / kg	Content / bag
Volume (ml)	24.04	1875
Calorie (kCal)	18.4	1435
Protein (g)	0.77	60
Carbohydrate (g)	1.54	120
Lipid (g)	0.96	75
Sodium (mmol)	0.96	75
Potassium (mmol)	0.58	45
Calcium (mmol)	0.06	4.5
Magnesium (mmol)	0.06	4.5
Phosphate (mmol)	0.14	11.3
Chloride (mmol)	0.92	72
Acetate (mmol)	0.77	60
Trace Element (ml)	NA	NA
Combine Vitamin (ml)	NA	NA
Water Soluble Vitamin (ml)	NA	NA
Fat Soluble Vitamin (ml)	NA	NA

**Infusion Over:** 24 hr      **Infusion Rate:** 78.13 ml/hr

**Prescriber:** DR. MUHAMMAD SAZI DANIAL ABICIN      **Frequency:** OD (once daily)

**Designation:** Pegawai Perubatan Pelatih      **Infusion Route:** Central

**Department:** Multidiscipline      **Remarks:**

Figure 4.3-10 Sample of PN Prescription

**Note**

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

**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

**Figure 4.3-12 Information Alert Message**

**STEP 17**

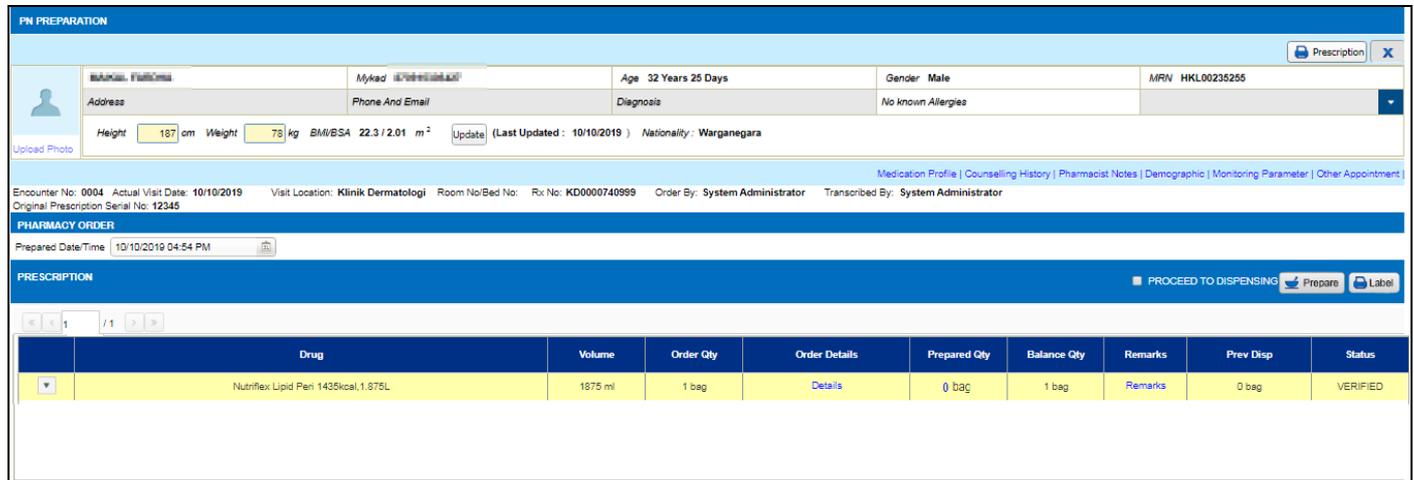
Click on the button to confirm ordered saved and to verify PN Order screen will be appeared as per Figure 4.3-13





## STEP 22

Click on the  button to confirm save



**PN PREPARATION**

Prescription X

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

Phone And Email: Diagnosis: No known Allergies

Height: 187 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m<sup>2</sup> 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

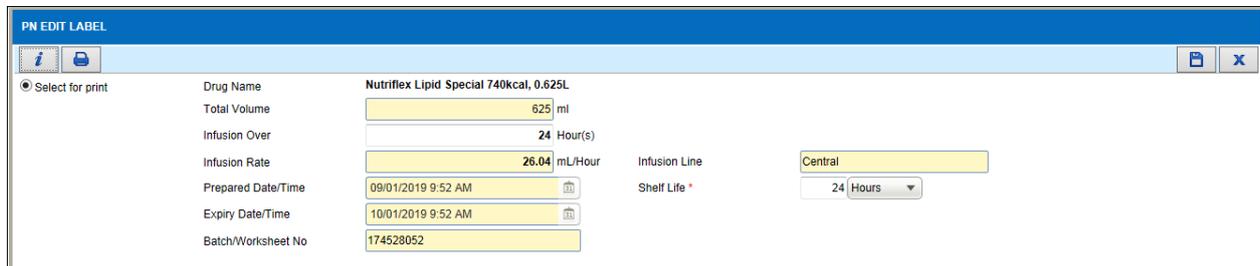
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1425kcal, 1.875L	1875 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

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

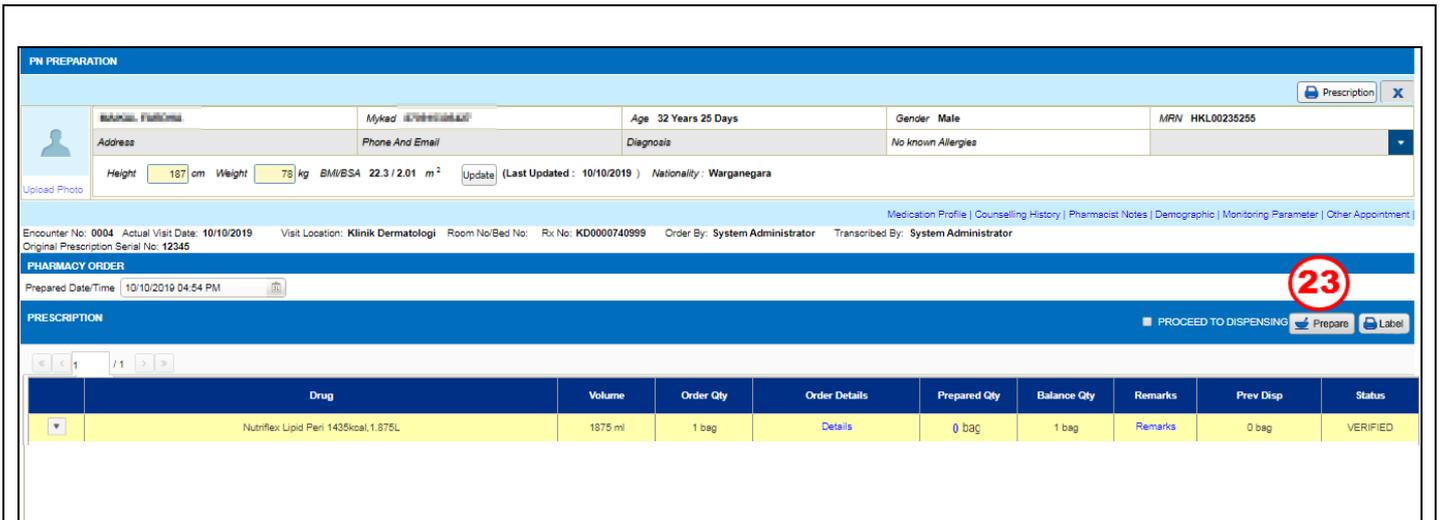
Figure 4.3-19 PN Preparation

### Note

- Select the  Select for print 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.

<b>HOSPITAL KUALA LUMPUR</b>		
Nutriflex Lipid Special 740kcal, 0.625L		
NAME : <b>MAJAL, FAROHA</b>		
ID NO <b>EP00110000407</b>		
AGE : 32 Years 01 Months 06 Days		
MRN : HKL00235255	WARD/BED NO: Klinik Dermatologi	
Total 625 ml/bag		
<b>Content</b>	<b>/ kg</b>	<b>/ bag</b>
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 :	Price : RM
	22/10/2019	
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 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

BAHAGIA: FullTime Mykad: 000000000000 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 m<sup>2</sup> 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 DateTime: 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

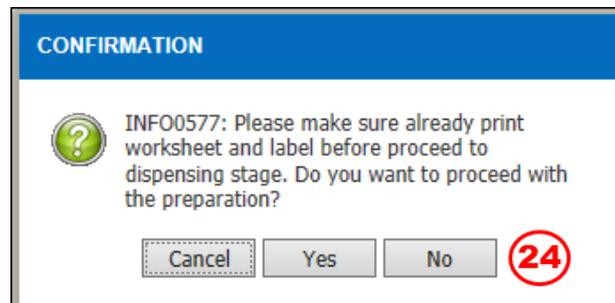
Figure 4.3-21 Sample PN Label

**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.



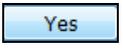
**CONFIRMATION**

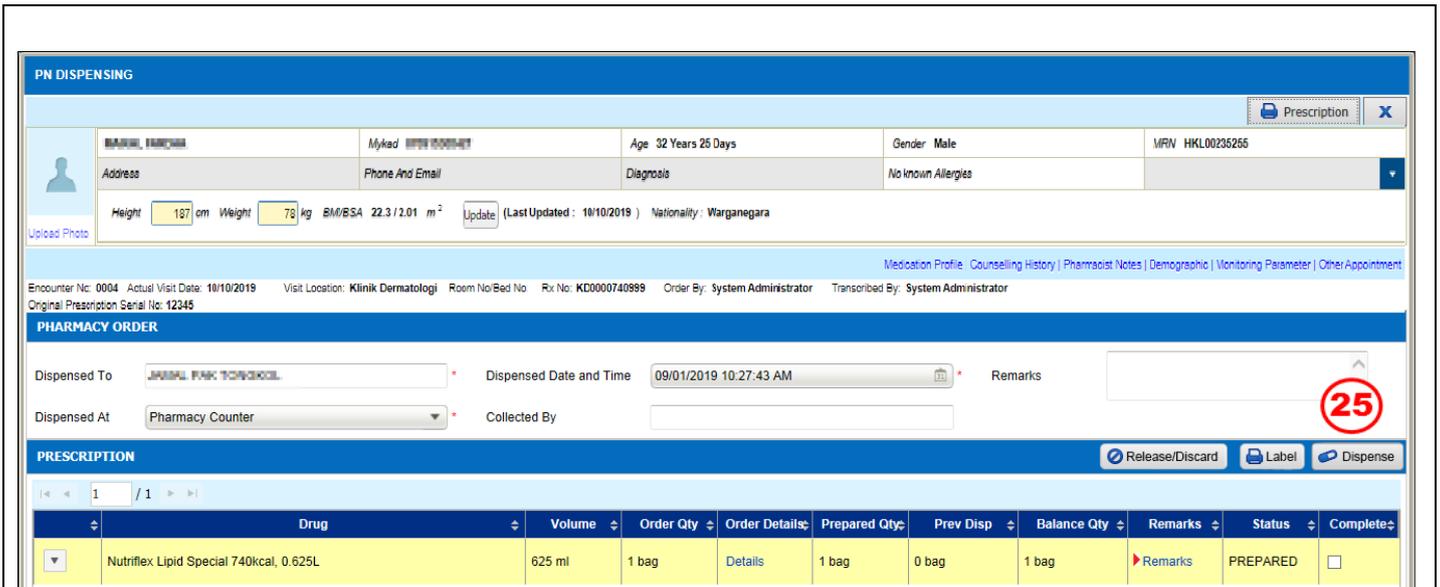
INFO0577: Please make sure already print worksheet and label before proceed to dispensing stage. Do you want to proceed with the preparation?

Cancel Yes No

Figure 4.3-22 Confirmation Alert Message

**STEP 24**

Click on the  button to confirm prepare order



**PN DISPENSING**

Prescription X

Mykad: MYKAD 8888000047 | Age: 32 Years 25 Days | Gender: Male | MRN: HKL00235255  
 Address: | Phone And Email: | Diagnosis: | No known Allergies  
 Height: 187 cm | Weight: 78 kg | BM/BSA: 22.3 / 2.01 m<sup>2</sup> | 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: JAMIL PAK TONDIKOL | Dispensed Date and Time: 09/01/2019 10:27:43 AM | Remarks: 25  
 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"/>

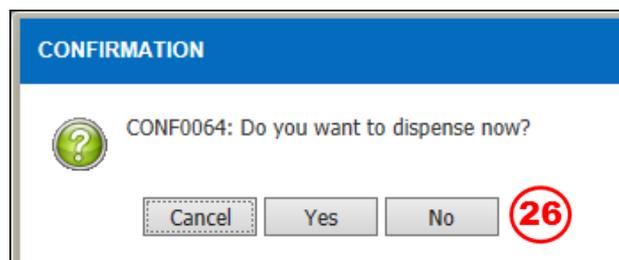
Figure 4.3-23 PN Dispensing

**STEP 25**

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

**STEP 26**

Click on the Yes button to confirm prepare order



**CONFIRMATION**

CONF0064: Do you want to dispense now?

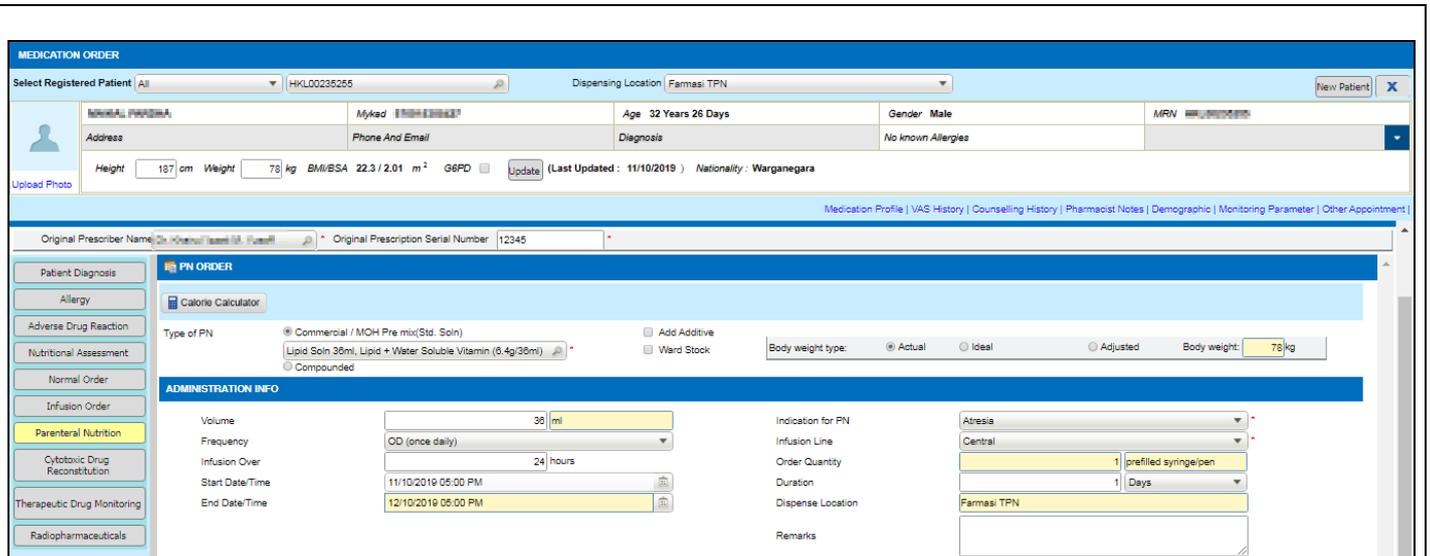
Cancel
Yes
No
26

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



**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 | Dispensing Location: Farmasi TPN

MyKad: [REDACTED] | Age: 32 Years 26 Days | Gender: Male | MRV: [REDACTED]

Height: 187 cm | Weight: 78 kg | BMI/BSA: 22.3 / 2.01 m<sup>2</sup> | G6PD: [REDACTED] | Update (Last Updated: 11/10/2019) | Nationality: Warganegara

Original Prescriber Name: [REDACTED] | Original Prescription Serial Number: 12345

**PN ORDER**

Type of PN: Commercial / MOH Pre mix (Std. Soln) | Add Additive: [REDACTED] | Body weight type: Actual | Body weight: 78 kg

**ADMINISTRATION INFO**

**PN COMPONENT**

Electrolytes	Initial Content	Additional Requirement	Total Per Day
Sodium(Natrium),Na+	<input type="text"/>	<input type="text"/>	<input type="text"/>
Potassium(Kalium),K+	<input type="text"/>	<input type="text"/>	<input type="text"/>
Calcium,Cs2+	<input type="text"/>	<input type="text"/>	<input type="text"/>
Magnesium,Mg+	<input type="text"/>	<input type="text"/>	<input type="text"/>
Phosphate,(PO4)2-	<input type="text"/>	<input type="text"/>	<input type="text"/>
Acetate(CH3COO)	<input type="text"/>	<input type="text"/>	<input type="text"/>
Trace elements	<input type="text"/>	<input type="text"/>	<input type="text"/>
L-Glutamin	<input type="text"/>	<input type="text"/>	<input type="text"/>
Vitamin	<input checked="" type="radio"/> Single Vitamin <input type="radio"/> Combine Vitamin		
Water soluble	<input type="text" value="2"/>	<input type="text"/>	<input type="text" value="2"/>
Fat soluble	<input type="text" value="8"/>	<input type="text"/>	<input type="text" value="8"/>

**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:  ml

Fat soluble:  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
<b>Electrolytes</b>			
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
<b>Trace elements</b>			
L-Glutamin	<input type="text" value="0"/> ml	<input type="text"/> ml	<input type="text" value="0"/> ml
<b>Vitamin</b>			
<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

Figure 4.4-5 Medication Order

**STEP 3**

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

**Note**

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

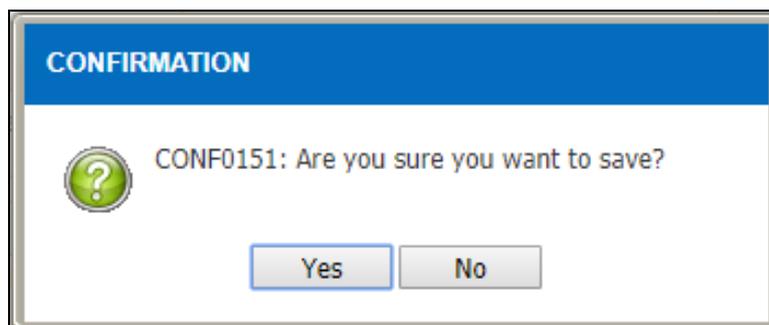


Figure 4.4-6 Confirmation Alert Message

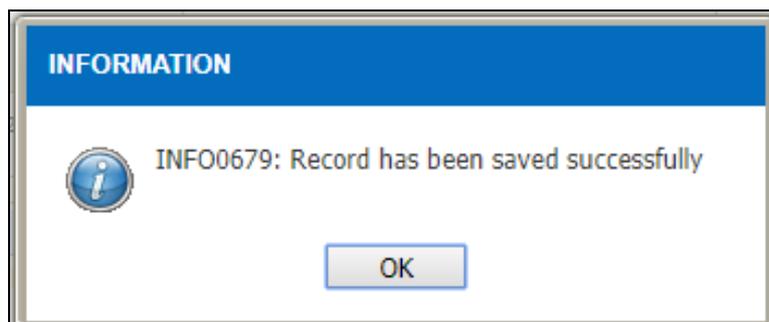


Figure 4.4-7 Information Alert Message

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

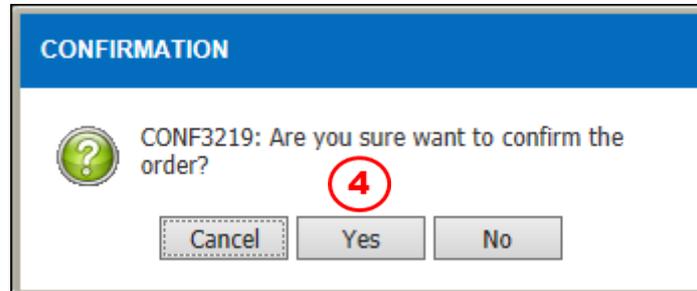
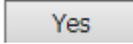


Figure 4.4-8 Information Alert Message

#### 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

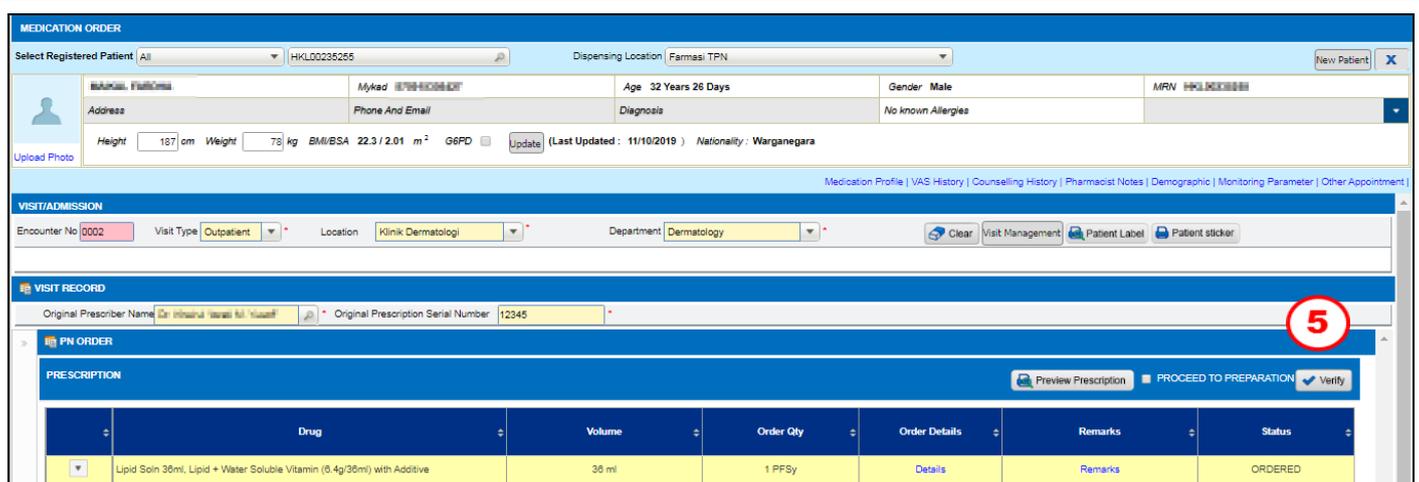


Figure 4.4-9 PN Order : Verify

#### STEP 5

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

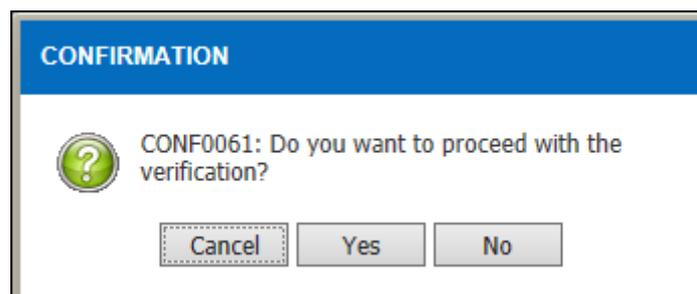


Figure 4.4-10 Confirmation Alert Message



**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 m<sup>2</sup> 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 03:23 PM

**PRESCRIPTION** PROCEED TO DISPENSING Prepare Worksheet Label

Drug	Volume	Order Qty	Order Details	Quantity	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml) with Additive	36 ml	1 PFSy	Details	0 PFSy	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:  Default SKU:

Drug Name:

**BATCH DETAIL**

Batch No.	Expiry Date	Available Qty	Balance Qty	Allocated Qty
wdw	03/12/2020	3309	1	1
Total Location Quantity		<input type="text" value="3309"/>	Total Allocated Quantity <input type="text" value="1"/>	

Figure 4.4-13 Item Batch Details

**STEP 7**

Enter **Allocated Qty**

**STEP 8**

Click on the  button to save record

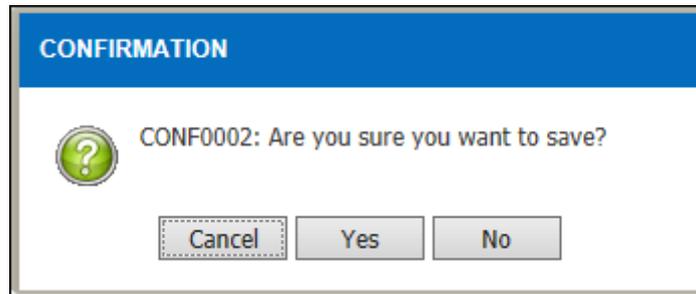
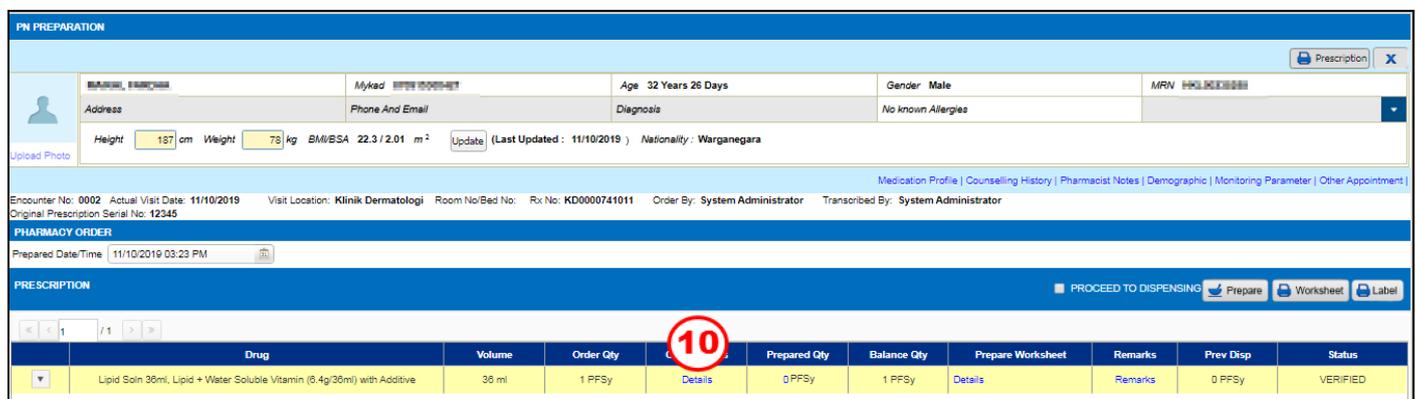


Figure 4.4-14 Confirmation Alert Message

**STEP 9**

Click on the  button to confirm save



**PN PREPARATION**

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

**PHARMACY ORDER**  
Prepared Date/Time: 11/10/2019 03:23 PM

**PRESCRIPTION**

Drug	Volume	Order Qty	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Lipid Soln 30ml, Lipid + Water Soluble Vitamin (0.4g/30ml) with Additive	30 ml	1 PFSy	0 PFSy	1 PFSy	<a href="#">Details</a>	Remarks	0 PFSy	VERIFIED

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

DETAIL

Macronutrient  
Glucose  g  
Lipid  g  
Protein  g

Vitamin  
Vitamin Solution  ml  
Water soluble  ml  
Fat soluble  ml

Trace elements  
Trace elements  ml  
Acetate  mmol  
L-Glutamin  ml

Electrolytes  
Sodium(Natrium),Na+  mmol  
Potassium(Kalium),K+  mmol

Calcium,Ca2+  mmol  
Magnesium,Mg+  mmol

Phosphate,(PO4)2-  mmol

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

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  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

DETAIL

Macronutrient  
Glucose  g  
Lipid  g  
Protein  g

Vitamin  
Vitamin Solution  ml  
Water soluble  ml  
Fat soluble  ml

Trace elements  
Trace elements  ml  
Acetate  mmol  
L-Glutamin  ml

Electrolytes  
Sodium(Natrium),Na+  mmol  
Potassium(Kalium),K+  mmol

Calcium,Ca2+  mmol  
Magnesium,Mg+  mmol

Phosphate,(PO4)2-  mmol

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

Calculate

11

Figure 4.4-17 Prepare Worksheet

**STEP 11**

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

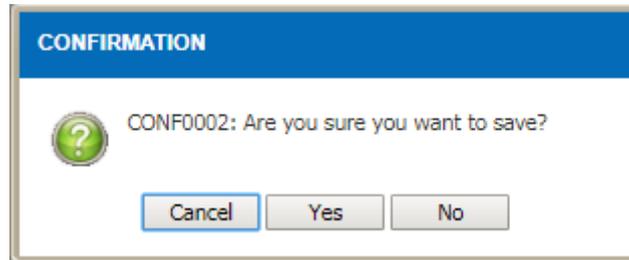
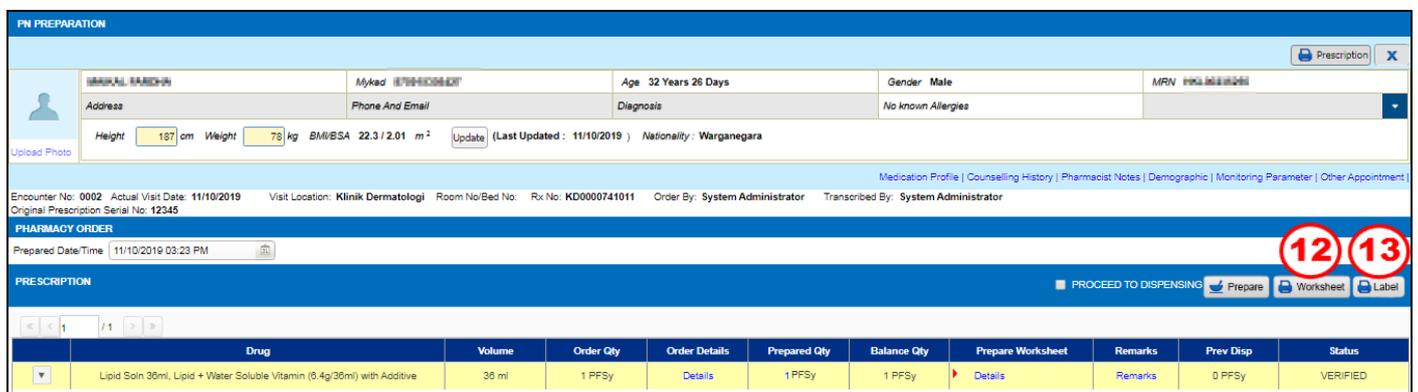


Figure 4.4-19 Confirmation Alert Message

**Note**

Click on the  button to save record



**PHARMACY ORDER**  
Prepared Date/Time: 11/10/2019 03:23 PM

**PRESCRIPTION**  
PROCEED TO DISPENSING

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
Lipid Soln 36ml, Lipid + Water Soluble Vitamin (6.4g/36ml) with Additive	36 ml	1 PFSy	Details	1 PFSy	1 PFSy	Details	Remarks	0 PFSy	VERIFIED

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 : **ABRARA, PIRADIA** Worksheet : A001-111010  
MRN : **001000000** 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 Glycerophosphate 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 Additive  
 Product Volume: 38 ml  
 Ordered Volume: 38 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: A001-111010

Infusion Line: Central  
 Shelf Life: 24 Hours

Figure 4.4-22 PN Edit Label

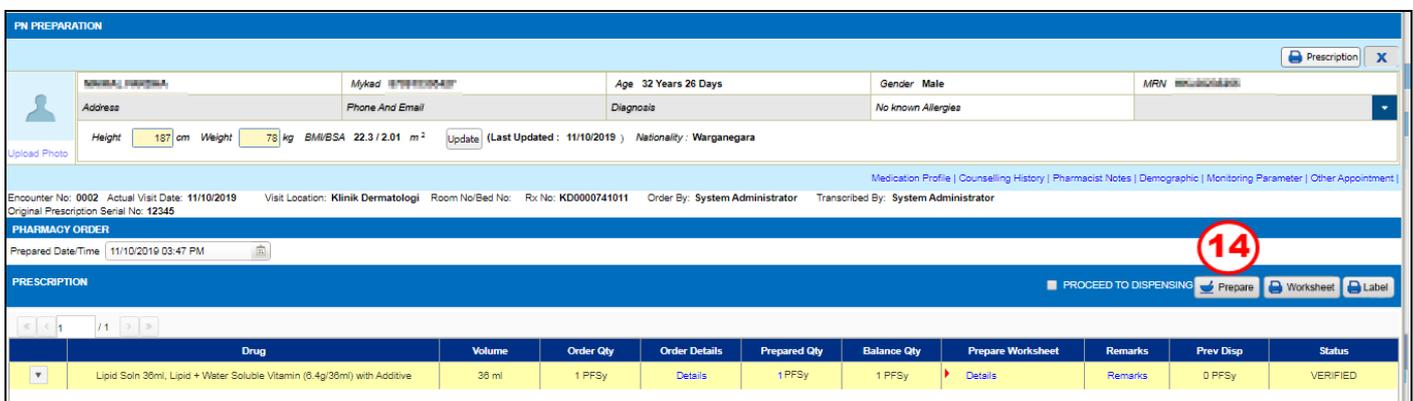
### Note

#### 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 : <b>Muhammad Fauzan</b>		
D NO : <b>1110190001</b>		
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 : A001-111019	Expiry Date : 12/10/2019	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 24 Hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 4.4-23 PN Label



**PN PREPARATION**

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

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

PHARMACY ORDER

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

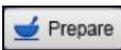
PRESCRIPTION

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 (6.4g/36ml) with Additive	36 ml	1 PFSy	Details	1 PFSy	1 PFSy	Details	Remarks	0 PFSy	VERIFIED

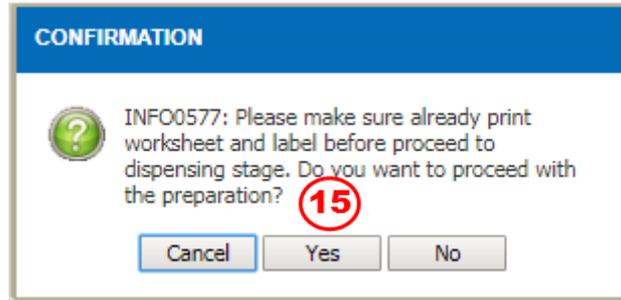
Figure 4.4-24 PN Preparation

**STEP 14**

Click on the  button to prepare PN order

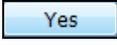
**Note**

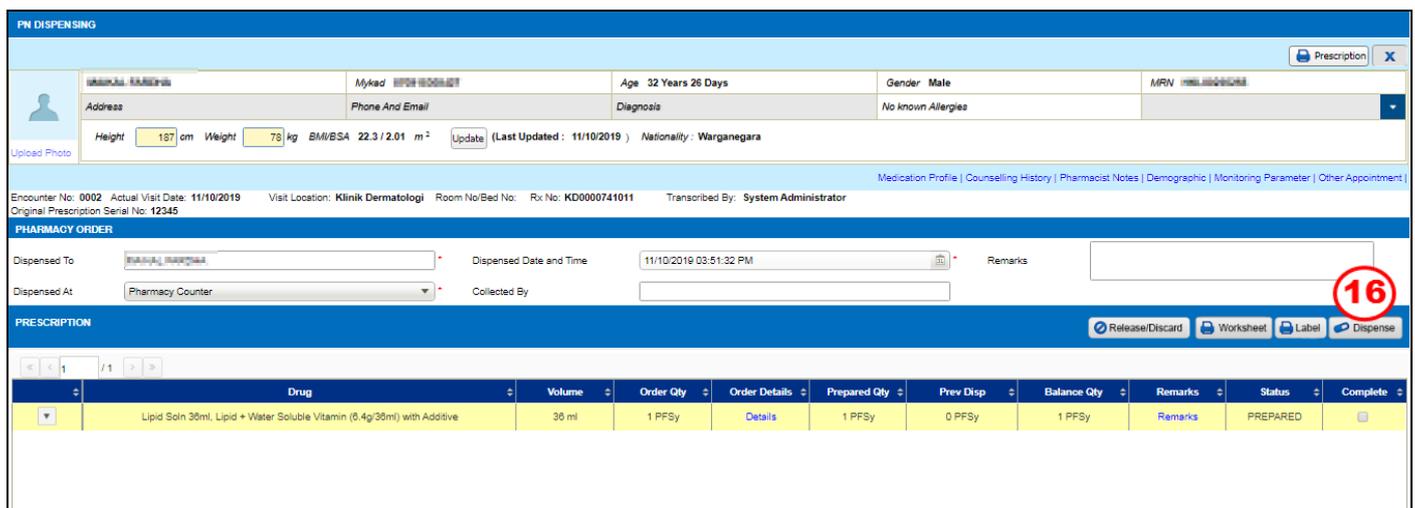
*Proceed to Dispensing function will allow user to go next stage screen for each patient record.*



**Figure 4.4-25 PN Confirmation Alert Message**

**STEP 15**

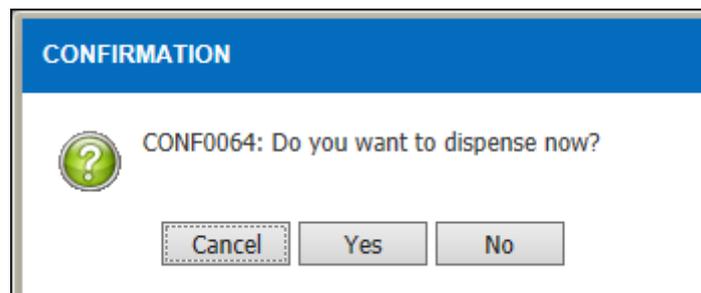
Click on the  button to confirm prepare order



**Figure 4.4-26 PN Dispensing**

**STEP 16**

Click on the  button and alert message will be displayed as per Figure 4.4-27



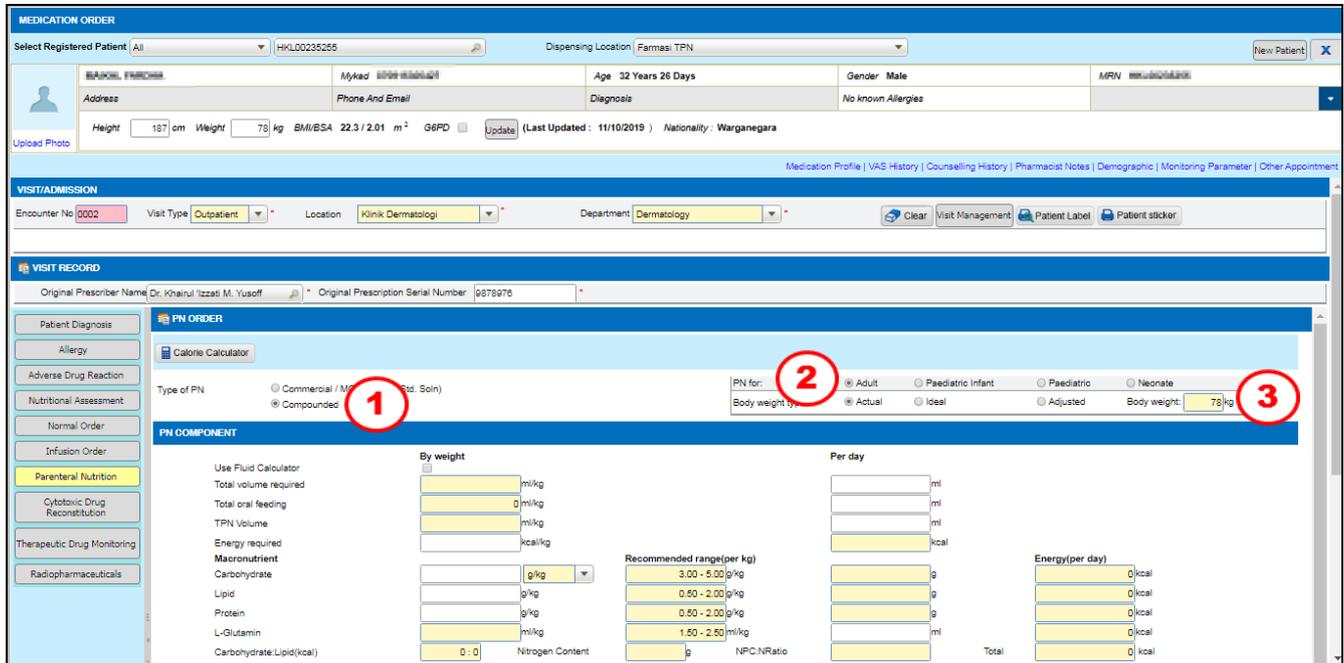
**Figure 4.4-27 Confirmation Alert message**



**Note**

- Click on the  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)



**MEDICATION ORDER**

Select Registered Patient: All | HIKL00235256 | Dispensing Location: Farmasi TPN | New Patient X

**PASUKAN, FARMASI**  
Mykad: 12345678901234 | Age: 32 Years 26 Days | Gender: Male | MRN: 12345678901234  
Address: | Phone And Email: | Diagnosis: | No known Allergies:  
Height: 187 cm | Weight: 78 kg | BMI/BSA: 22.3 / 2.01 m<sup>2</sup> | 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. Khairul Izzati M. Yusoff | Original Prescription Serial Number: 0873976

**PN ORDER**

Calorie Calculator

Type of PN:  Commercial / M (Std. Soln) |  Compounded (1)

PN for:  Adult (2) |  Paediatric Infant |  Paediatric |  Neonate

Body weight type:  Actual (3) |  Ideal |  Adjusted | Body weight: 78 kg

**PN COMPONENT**

	By weight	Recommended range(per kg)	Per day	Energy(per day)
Use Fluid Calculator	<input type="checkbox"/>		<input type="checkbox"/>	
Total volume required	<input type="text"/> ml/kg		<input type="text"/> ml	
Total oral feeding	<input type="text"/> ml/kg		<input type="text"/> ml	
TPN Volume	<input type="text"/> ml/kg		<input type="text"/> ml	
Energy required	<input type="text"/> kcal/kg		<input type="text"/> kcal	
<b>Macronutrient</b>				
Carbohydrate	<input type="text"/> g/kg	3.00 - 5.00 g/kg	<input type="text"/> g	<input type="text"/> kcal
Lipid	<input type="text"/> g/kg	0.50 - 2.00 g/kg	<input type="text"/> g	<input type="text"/> kcal
Protein	<input type="text"/> g/kg	0.50 - 2.00 g/kg	<input type="text"/> g	<input type="text"/> kcal
L-Glutamin	<input type="text"/> ml/kg	1.50 - 2.50 ml/kg	<input type="text"/> ml	<input type="text"/> kcal
Carbohydrate:Lipid(kcal)	<input type="text"/> : <input type="text"/>			
Nitrogen Content	<input type="text"/> g			
NPC:NRatio	<input type="text"/>			
Total				<input type="text"/> kcal

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'

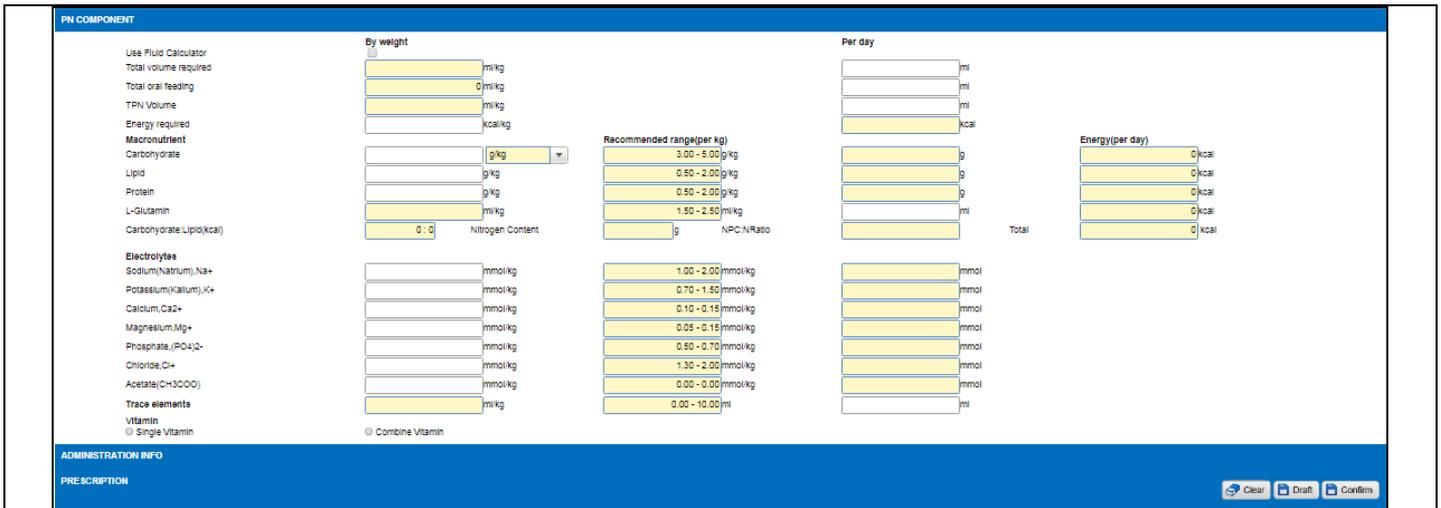
### STEP 3

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 displays the 'PN COMPONENT' section of the software. It is organized into three main columns: 'By weight', 'Per day', and 'Energy(per day)'. The 'By weight' column includes fields for Total volume required (ml/kg), Total oral feeding (ml/kg), TPN Volume (ml/kg), Energy required (kcal/kg), and various macronutrient and electrolyte concentrations (g/kg or mmol/kg). The 'Per day' column includes fields for Total volume required (ml), Total oral feeding (ml), TPN Volume (ml), and Energy (kcal). The 'Energy(per day)' column includes fields for Energy (kcal). A 'Recommended range(per kg)' column provides reference values for macronutrients and electrolytes. At the bottom, there are sections for 'ADMINISTRATION INFO' and 'PRESCRIPTION' with buttons for 'Clear', 'Draft', and 'Confirm'.

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 editeble.
- 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.

**MEDICATION ORDER**

Select Registered Patient: All | HKL00235265 | Dispensing Location: Farmasi TPN

**VISIT/ADMISSION**

Encounter No: 0002 | Visit Type: Outpatient | Location: Klinik Dermatologi | Department: Dermatology

**PN ORDER**

PN for:  Adult    Paediatric Infant    Paediatric    Neonate

Body weight type:  Actual    Ideal    Adjusted   Body weight: 75 kg

**PN COMPONENT**

**ADMINISTRATION INFO**

Volume: 3000 ml  
 Frequency: OD  
 Infusion Over: 24 hours  
 Start Date/Time: 11/10/2019 05:00 PM  
 End Date/Time: 12/10/2019 05:00 PM

Indication for PN: Bowel failure  
 Infusion Line: Central  
 Order Quantity: 1 BAG  
 Dispense Location: Farmasi TPN

**PRESCRIPTION**

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 **Confirm** button to confirm record order and alert message will be appeared as per Figure 4.5-7

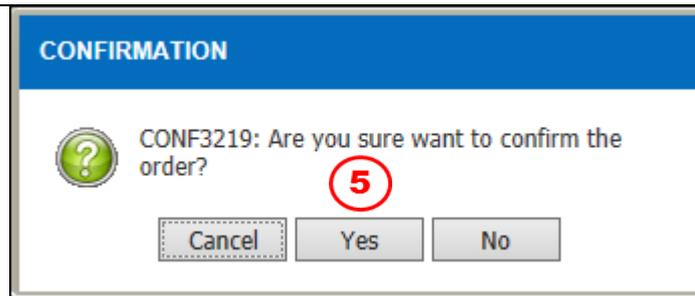


Figure 4.5-7 Information Alert Message

**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



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  button to verify the order and alert message will be displayed as per Figure 4.5-9

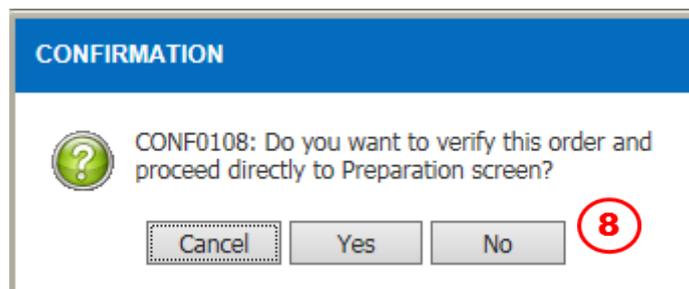


Figure 4.5-9 Information Alert Message

**STEP 8**

Click on the  button to confirm the verification



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**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

**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	3060 ml	1 bag	<a href="#">Details</a>	1 bag	1 bag	<a href="#">Details</a>	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**

DETAIL

TPN volume: 3060 ml Energy required: 0 kcal Product category: 3 in 1 2 in 1

Macronutrient: Glucose Lipid Protein Electrolytes (Sodium, Potassium, Calcium, Magnesium, Chloride)

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% (Valminalod) 500ml IV Soln	0	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	0
Sodium Chloride 20% inj	0	0	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	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 VVF	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vitamin A, D, E, K (Vitapid 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
<b>Total Preparation</b>	<b>0</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

[Calculate](#)

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



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**PREPARE WORKSHEET**

Intervention  Auto Allocation

TPN volume: 2420 ml Energy required: 1696 kcal Product category: 3 in 1

Macronutrient: Glucose 165 g Lipid 110 g Protein 55 g

Electrolytes: Sodium(Na<sup>+</sup>) 55 mmol Potassium(K<sup>+</sup>) 55 mmol Calcium, Ca<sup>2+</sup> 55 mmol Magnesium, Mg<sup>2+</sup> 605 mmol

Vitamin: Vitamin Solution Water soluble 1 ml Fat soluble 2 ml

Trace elements: 1 ml Acetate 55 mmol L-Glutamin 33 ml Phosphate, PO<sub>4</sub><sup>3-</sup> 55 mmol

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolarity (mOsmol)	Content									
						Lipid (g)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Fat emulsion, SIMCFEPO 20% 500ml IV Soln	650	2 bott	0 bott	650	159.6	110	0	0	0	0	0	0	0	0	0
Glucose 50% IV soln 500ml	330	1 bott	0 bott	624	917.4	0	165	0	0	0	0	0	0	0	0
Amino acid 5.53% (Aminopack) 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 Glycero-phosphate 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	55
Calcium Gluconate 10% injection	41.04	8 amp	0 amp	0	110.93	0	0	0	0	0	0	0	55	0	54.99
Magnesium Sulphate 50% injection (49.3% SML)	243.36	25 amp	0 amp	0	180.62	0	0	0	0	0	0	0	0	55	0
Magnesium Sulphate 50% injection (49.3% SML)	302.5	51 amp	0 amp	0	1391.6	0	0	0	0	0	0	0	0	0	605
Trace Element - Paediatric (Paedtrace) 10ml, Inj	1	1 amp	0 amp	0	0.04	Trace Elements									
Vitamin B and C (P-Tivolve) 10ml, Inj	1	1 pair	0 pair	0	0	Combine Vitamin (Water & Fat Soluble)									
Vitamin A, D, E, K (Vitlipid N infant) 10ml, Inj	2	1 amp	0 amp	0	0.6	Water Soluble Vitamins									
Ni(2)-L-alanyl-L-glutamine 20% (Dipeptivan) 100ml	33	1 bott	0 bott	26.4	30.39	L-Glutamin									
Water For Injection	0	0	0	0	0	Water For Injection									
<b>Total Preparation</b>	<b>2420.57</b>			<b>2051.4</b>	<b>1414.37 mOsmol/l</b>	<b>110</b>	<b>165</b>	<b>55</b>	<b>55</b>	<b>55</b>	<b>165</b>	<b>55</b>	<b>55</b>	<b>605</b>	<b>54.99</b>

Calculate

TOTAL content of Calcium and Phosphate: N:P: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

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

Height: 197 cm Weight: 78 kg BMI/BSA: 22.3 / 2.01 m<sup>2</sup> (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  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 4.5-13 PN Preparation

**STEP 10**

Click on the Worksheet 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 # : RT3GD0000126534

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Amino acid 6.53% (Vaminolaot) 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 Glycerophosphate 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
Traoe Element - Paediatric (Peditraoe) 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 PREPARATION**

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

**PHARMACY ORDER** 11

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

**PRESCRIPTION** PROCEED TO DISPENSING

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?

12

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: NW23000740626 Transcribed By: System Administrator  
Original Prescription Serial No: w0q

**PHARMACY ORDER** 13

Dispensed To: Pharmacy Counter Dispersed Date and Time: 11/10/2019 04:44:22 PM Remarks:

Dispensed At: Pharmacy Counter Collected By:

**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

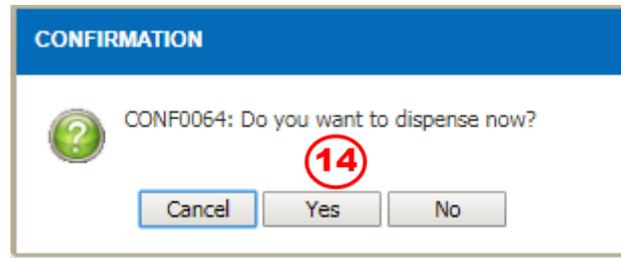
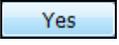


Figure 4.5-20 Confirmation Alert Message

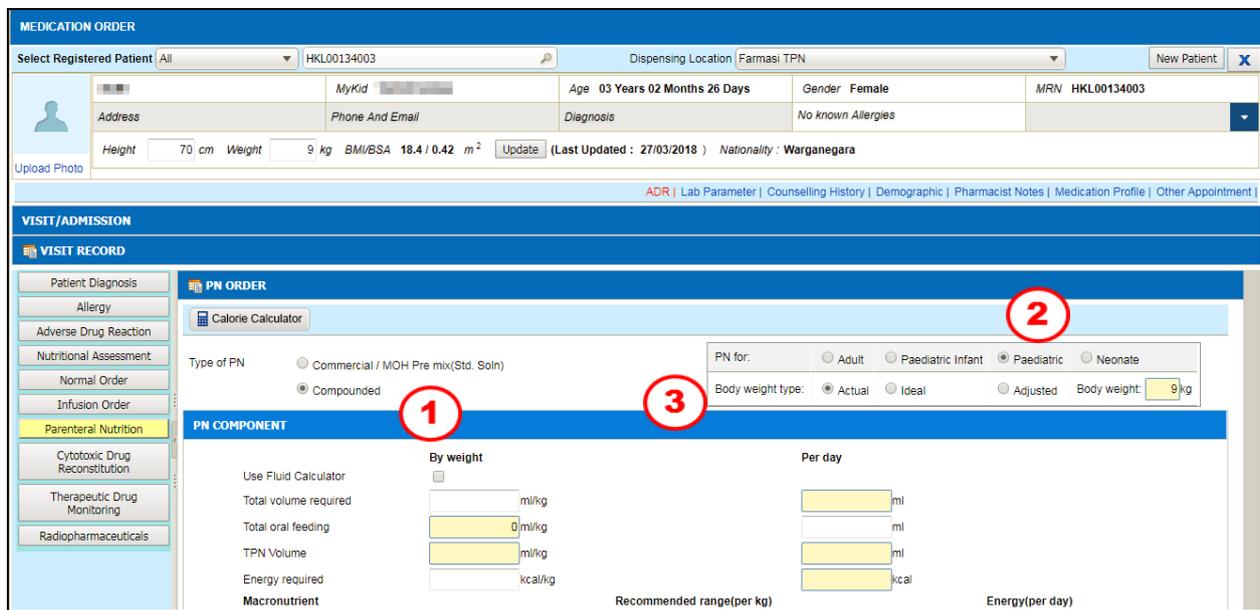
### STEP 14

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)



**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 m<sup>2</sup> | Update (Last Updated: 27/03/2018) | Nationality: Warganegara

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

**VISIT/ADMISSION**

**VISIT RECORD**

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

**PN ORDER**

Calorie Calculator

Type of PN:  Commercial / MOH Pre mix(Std. Soln) |  **Compounded** (1)

PN for:  Adult |  Paediatric Infant |  **Paediatric** (2) |  Neonate

Body weight type:  **Actual** (3) |  Ideal |  Adjusted | Body weight: 9 kg

**PN COMPONENT**

	By weight	Per day
Use Fluid Calculator	<input type="checkbox"/>	
Total volume required	<input type="text"/> ml/kg	<input type="text"/> ml
Total oral feeding	<input type="text"/> 0 ml/kg	<input type="text"/> ml
TPN Volume	<input type="text"/> ml/kg	<input type="text"/> ml
Energy required	<input type="text"/> kcal/kg	<input type="text"/> kcal
Macronutrient	Recommended range(per kg)	Energy(per day)

**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				
Total volume required	100 ml/kg		200 ml	
Total oral feeding	0 ml/kg		ml	
TPN Volume	100 ml/kg		200 ml	
Energy required	48 kcal/kg		96 kcal	
<b>Macronutrient</b>				
Carbohydrate	3 g/kg	3.00 - 10.50 g/kg	6 g	24 kcal
Lipid	1 g/kg	1.00 - 2.00 g/kg	2 g	18 kcal
Protein	2 g/kg	1.00 - 3.00 g/kg	4 g	16 kcal
L-Glutamin	ml/kg	0.00 - 0.00 ml/kg	0 ml	0 kcal
Carbohydrate:Lipid(kcal)	57 : 43	Nitrogen Content	1 g	NPC:NRatio
			42 : 1	Total
<b>Electrolytes</b>				
Sodium(Natrium),Na+	1 mmol/kg	1.00 - 3.00 mmol/kg	2 mmol	
Potassium(Kalium),K+	1 mmol/kg	1.00 - 3.00 mmol/kg	2 mmol	
Calcium,Ca2+	1 mmol/kg	0.50 - 1.25 mmol/kg	2 mmol	
Magnesium,Mg+	0.15 mmol/kg	0.15 - 0.25 mmol/kg	0.3 mmol	
Phosphate,(PO4)2-	0.5 mmol/kg	0.50 - 1.00 mmol/kg	1 mmol	
Chloride,Cl+	2 mmol/kg	2.00 - 5.00 mmol/kg	4 mmol	
Acetate(CH3COO)	mmol/kg	0.00 - 0.00 mmol/kg	mmol	
<b>Trace elements</b>				
Vitamin	ml/kg	0.00 - 15.00 ml	ml	
<input type="radio"/> Single Vitamin <input checked="" type="radio"/> Combine Vitamin				
Water and Fat Soluble	ml/kg	0.00 - 0.00 ml	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<sup>-</sup>** and **Acetate (CH<sub>3</sub>COO)** 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 4.6-3 Single Vitamin

**Vitamin**

Single Vitamin       Combine Vitamin

Water and Fat Soluble       ml       ml       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.

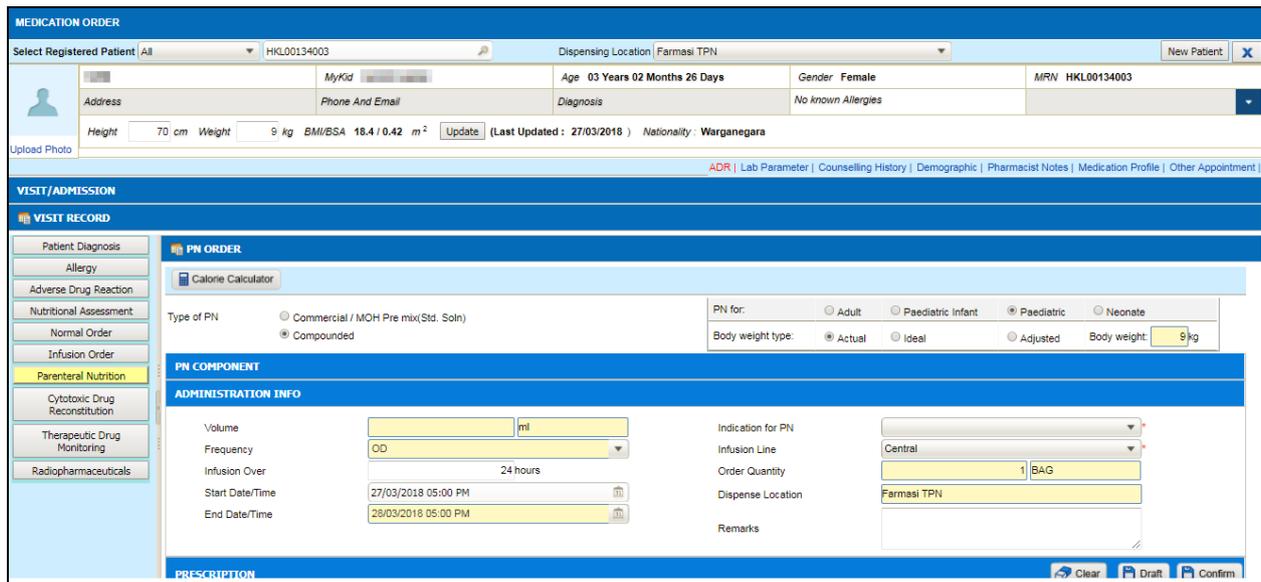
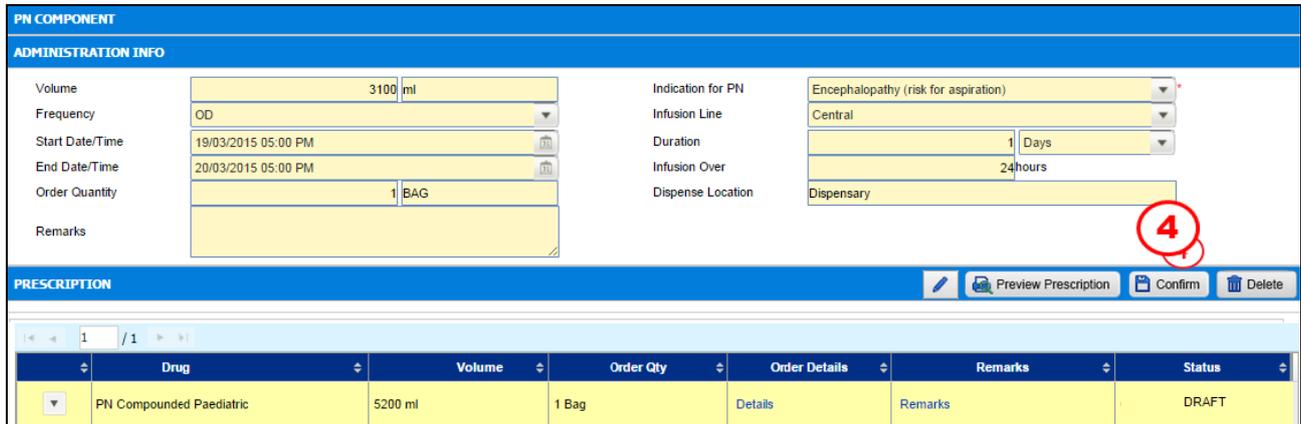


Figure 4.6-5 Administration Info

**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  
Frequency: OD  
Start Date/Time: 19/03/2015 05:00 PM  
End Date/Time: 20/03/2015 05:00 PM  
Order Quantity: 1 BAG  
Remarks:

Indication for PN: Encephalopathy (risk for aspiration)  
Infusion Line: Central  
Duration: 1 Days  
Infusion Over: 24hours  
Dispense Location: Dispensary

**PRESCRIPTION**

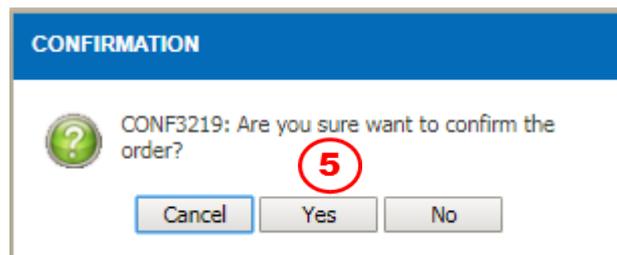
Preview Prescription Confirm Delete

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



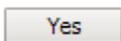
**CONFIRMATION**

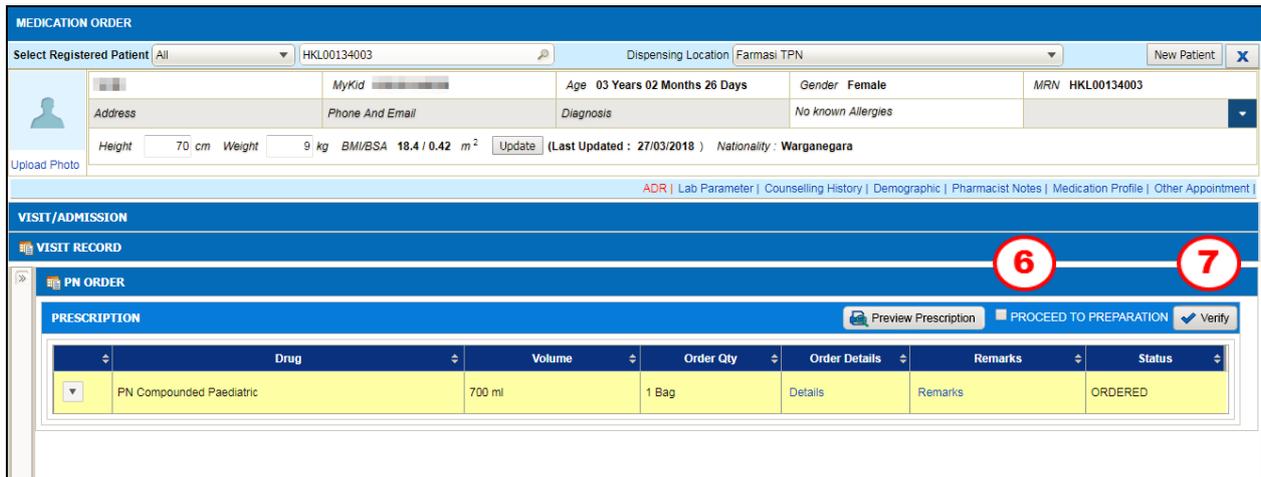
CONF3219: Are you sure want to confirm the order?

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



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**

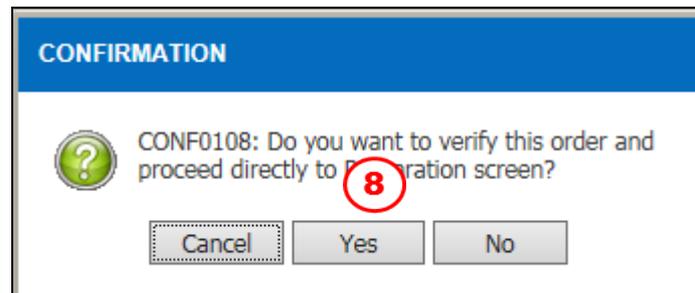
Check the  **PROCEED TO PREPARATION** check box

**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 m<sup>2</sup> (Last Updated: ) Nationality: Warganegara

Encounter No: 0009 Actual Admission Date: 27/03/2018 Visit Location: Wad NW16B (Perubatan) Room No/Bed No: Rx No: NW18B000317242 Order By: [Redacted] Transcribed By: [Redacted]

Original Prescription Serial No: 212424

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

PROCEED TO DISPENSING Prepare Worksheet Label Outsource

Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Prepare Worksheet	Remarks	Prev Disp	Status
PN Compounded Paediatric	700 ml	1 bag	Details	1 bag	1 bag	Details <b>9</b>	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**

DETAIL

TRN volume: 3060 ml Energy required: 0 kcal Product category: **10** 3 in 1 @ 2 in 1

Macronutrient: Glucose, Lipid, Protein, Electrolytes (Sodium, Potassium, Calcium, Magnesium)

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolality (mOsmol)	Lipid (g)
Vitamin A, D, E, K (Vitapip N Infant) 10ml I	1	0	0	0	0	0
Vitamin B and C (Solvit N) in 10 ml WFI	1	0	0	0	0	0
Fat emulsion, SMOFIipid 20% 500ml IV Sol	0	0	0	0	0	0
<b>Total Preparation</b>	0			0		0

PN Bag (Without lipid)

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolality (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 acids 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% inj	0	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	0
Calcium Gluconate 10% injection	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magnesium Sulphate 50% injection (4.3% 5mL)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trace Element - Paediatric (Paedtrace) 10mL inj	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
<b>Total Preparation</b>	0			0		0	0	0	0	0	0	0	0	0

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

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

Figure 4.6-11 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.

Figure 4.6-12 Prepare Worksheet

**STEP 15**

Check on the  **Auto Allocation** checkbox

**STEP 16**

Click on the button to save record

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolality (mOsmol)	Glucose (g)	Protein (g)	Acetate (mmol)	Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Chloride (mmol)
Vitamin A, D, E, K (Vitalipid N Infant) 10ml i.v.	1		0	0	0	0	0	0	0	0	0	0	0	0
Vitamin B and C (Soluvit N) in 10 ml WFI	1		0	0	0	0	0	0	0	0	0	0	0	0
Fat emulsion, SMOFLipid 20% 500ml IV Sol	0		0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Preparation</b>	<b>0</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Drug selected	Volume (ml)	Order Quantity	Allocated Quantity	Calorie (kcal)	Osmolality (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
Amino acid 6.53% (Vaminolact) 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 Glycero-phosphate 22ml injection	0		0	0	0	0	0	0	0	0	0	0	0	0
Sodium Chloride 20% (ml)	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, I.V.	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
<b>Total Preparation</b>	<b>0</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

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

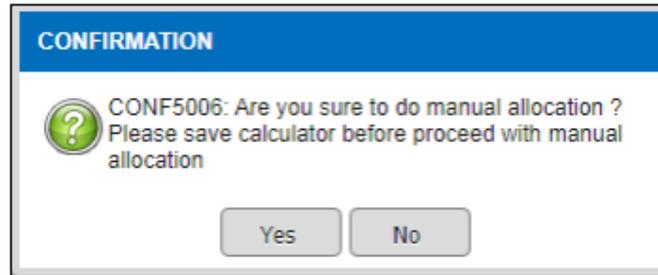


Figure 4.6-14 Confirmation Message

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

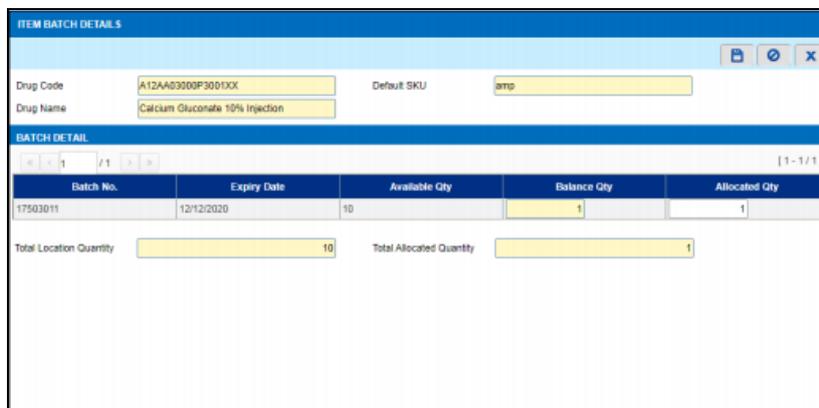


Figure 4.6-15 Item Batch Detail

- 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

MyKad: [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 m<sup>2</sup> [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: NW18B000317242 Order By: [Redacted] Transcribed By: [Redacted]

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

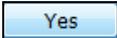
**CONFIRMATION**

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

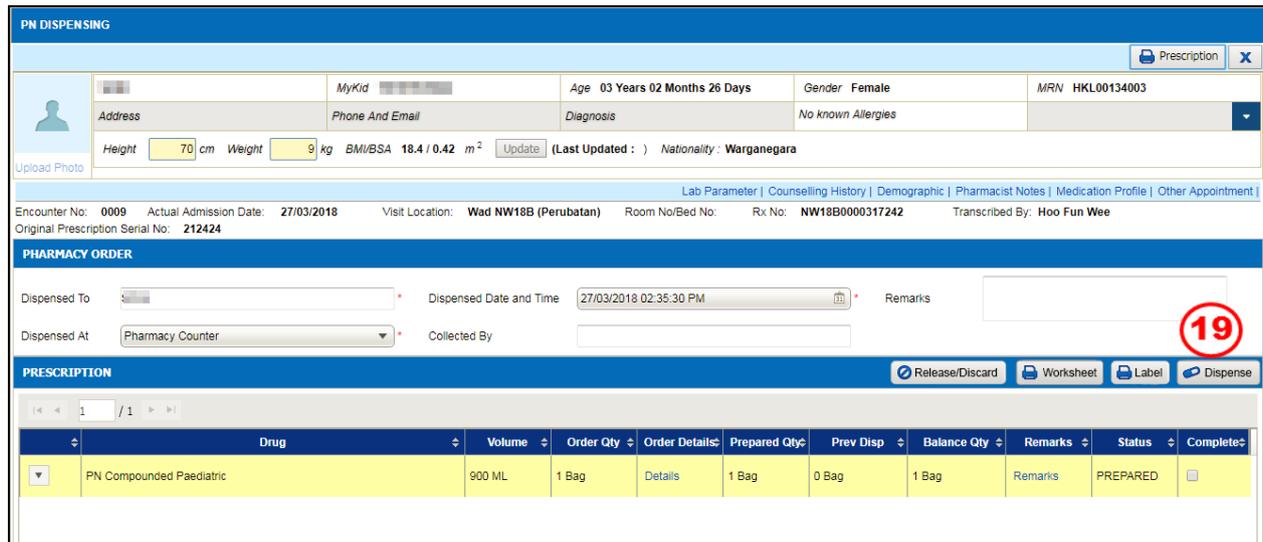
Figure 4.6-17 Confirmation Alert Message

**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 m<sup>2</sup> 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]

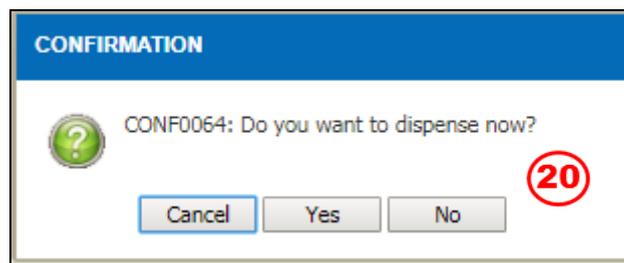
**PRESCRIPTION** Release/Discard Worksheet Label Dispense

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



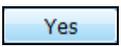
**CONFIRMATION**

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

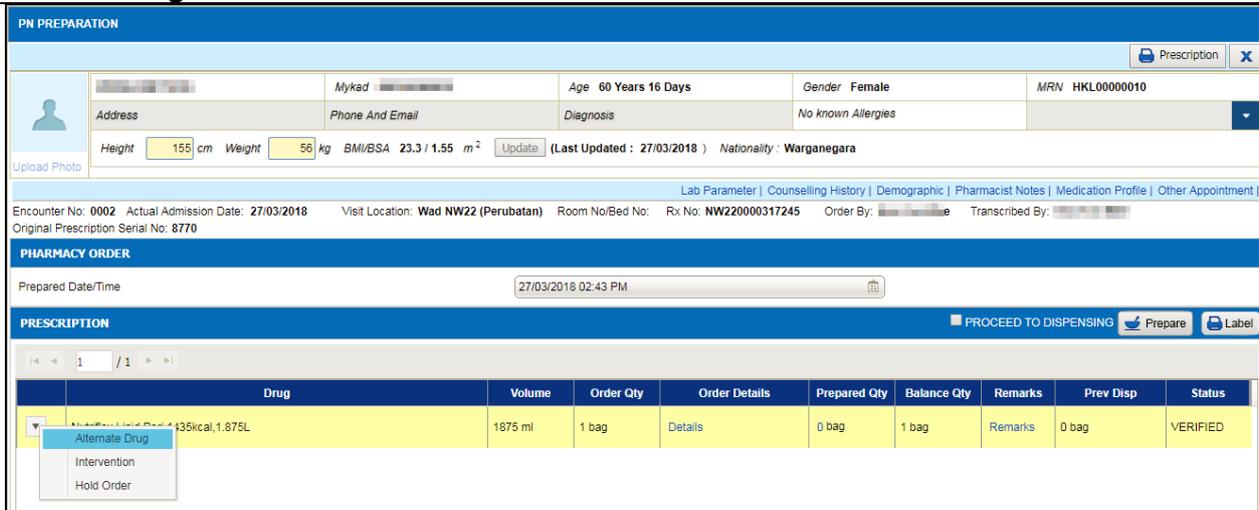
**Note**

- 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: HKL0000010

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

Height: 155 cm Weight: 56 kg BMI/BSA: 23.3 / 1.55 m<sup>2</sup> (Last Updated: 27/03/2018) Nationality: Warganegara

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

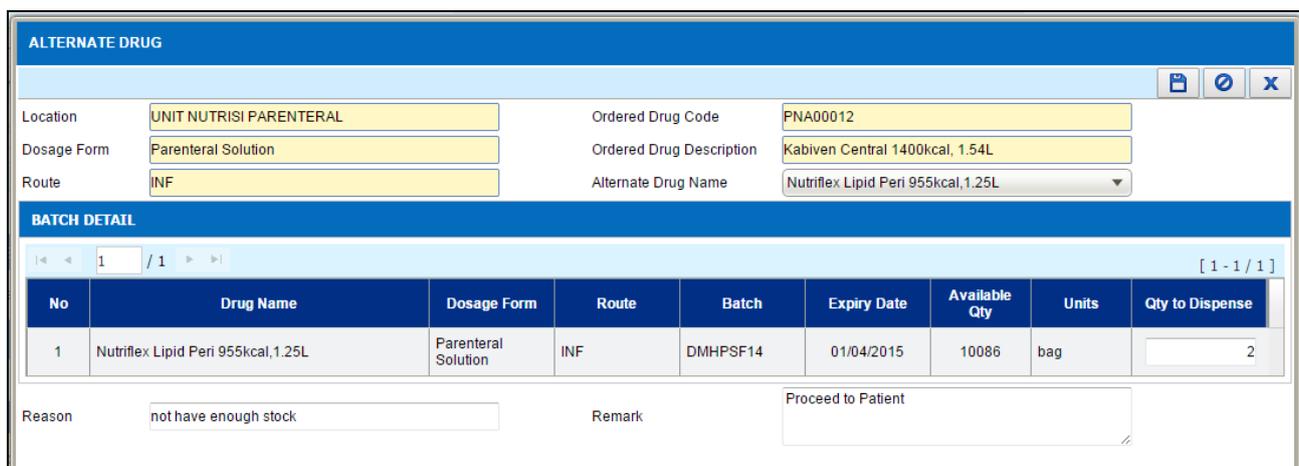
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
<input type="button" value="▼"/> Alternate Drug <input type="button" value="Intervention"/> <input type="button" value="Hold Order"/>	1875 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

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 boxas 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

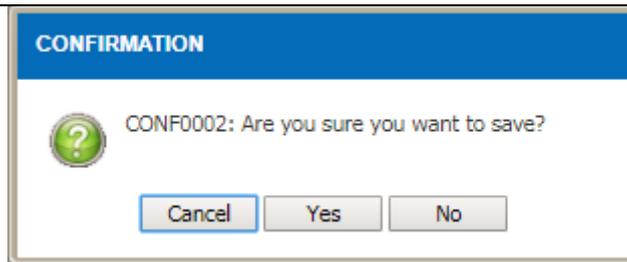
Route: INF Alternate Drug Name: Nutriflex Lipid Peri 955kcal,1.25L

**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

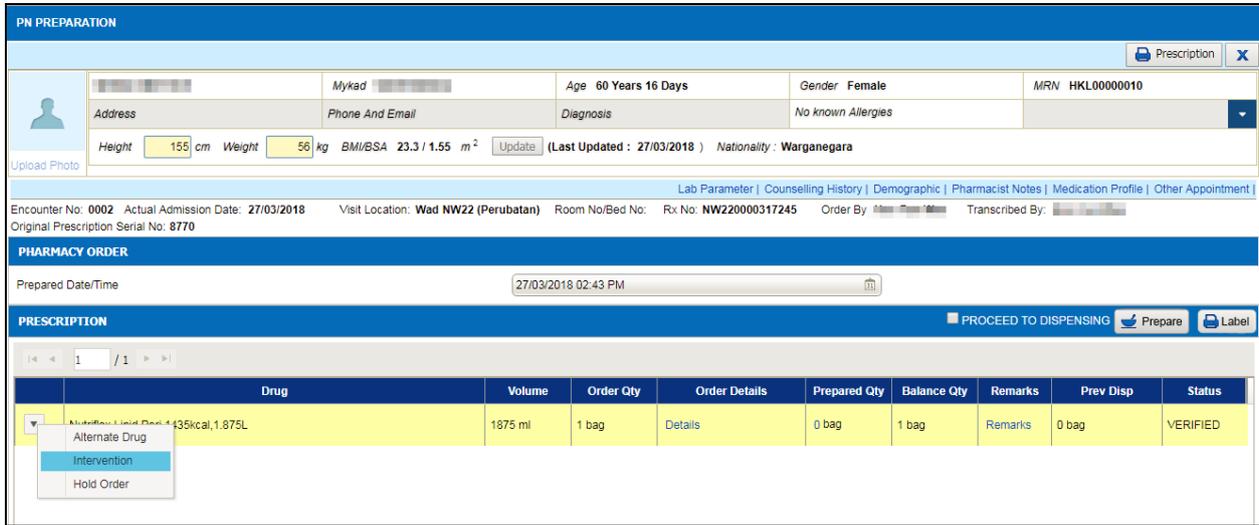


**Figure 4.7-3 Confirmation Alert Message**

**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 M/RN: HKL0000010

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

Height: 155 cm Weight: 56 kg BMI/BSA: 23.3 / 1.55 m<sup>2</sup> (Last Updated: 27/03/2018) Nationality: Warganegara

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 Des 4435kcal,1.875L Alternate Drug	1875 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

Intervention dropdown menu options: 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 bale to update reason and modify the order in preparation stage.

**PN INTERVENTION ORDER**

History Confirm Refresh 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  Add Additive  Compounded

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

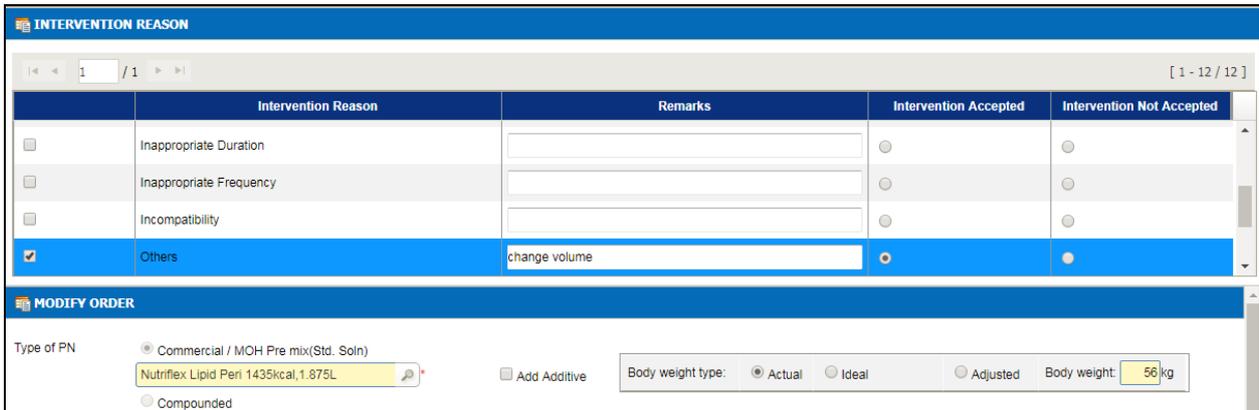
**PN COMPONENT**

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	65 kcal/kg		165 kcal	
<b>Macronutrient</b>				
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	Nitrogen Content	1g	NPC:NRatio
			63 : 1	Total
<b>Electrolytes</b>				
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	
<b>Trace elements</b>				
Vitamin	ml/kg	0.00 - 10.00 ml	ml	
<input type="radio"/> Single Vitamin	<input checked="" 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				
[ 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	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="checkbox"/> Add Additive	Body weight type:	<input checked="" type="radio"/> Actual <input type="radio"/> Ideal <input type="radio"/> Adjusted
	Nutriflex Lipid Peri 1435kcal,1.875L		Body weight:	56 kg
	<input type="radio"/> Compounded			

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.

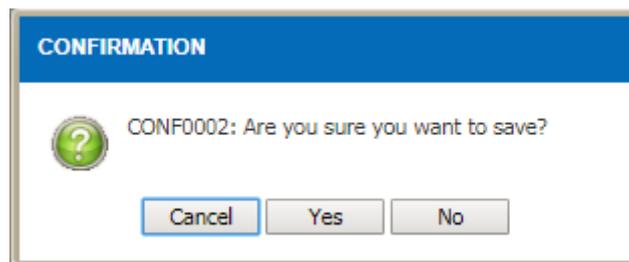


Figure 4.8-5 Confirmation Alert Message

**Note**

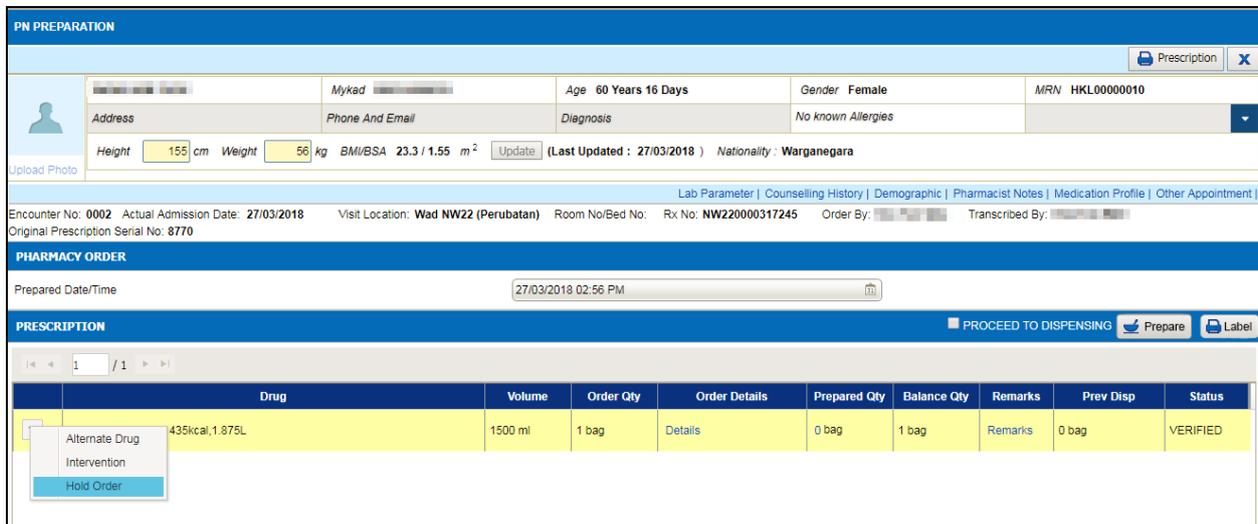
- Click on the  button to save record.
- Click on the  button to view history of Intervention reason history listing as per Figure 4.8-6.
- Click on the  button to close Intervention Reason History Listing screen.



INTERVENTION REASON HISTORY LISTING				
[ 1 - 1 / 1 ]				
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: HKL0000010

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

Height: 155 cm Weight: 56 kg BMI/BSA: 23.3 / 1.55 m<sup>2</sup> 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
435kcal,1.875L	1500 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED

Dropdown menu options: 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**.

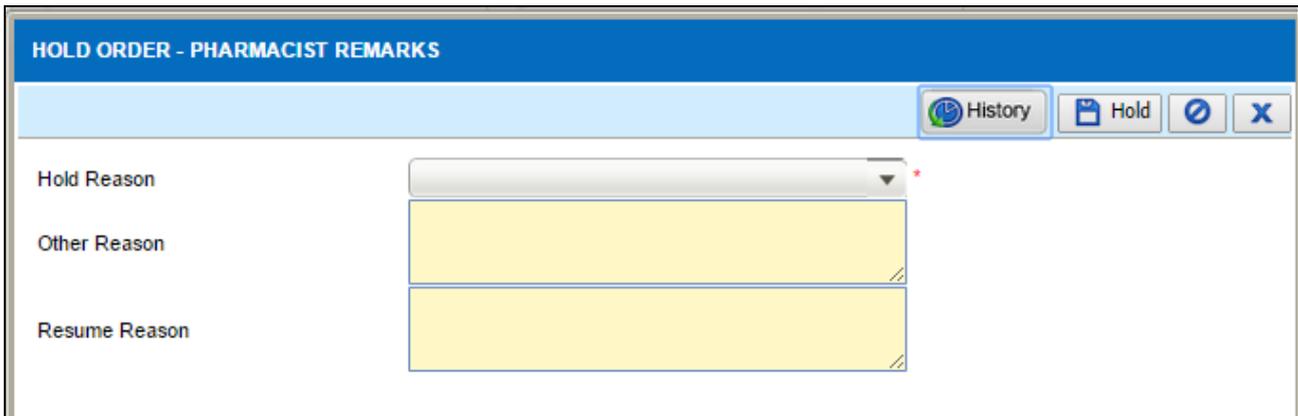


Figure 4.9-2 Hold Order-Pharmacy Remarks

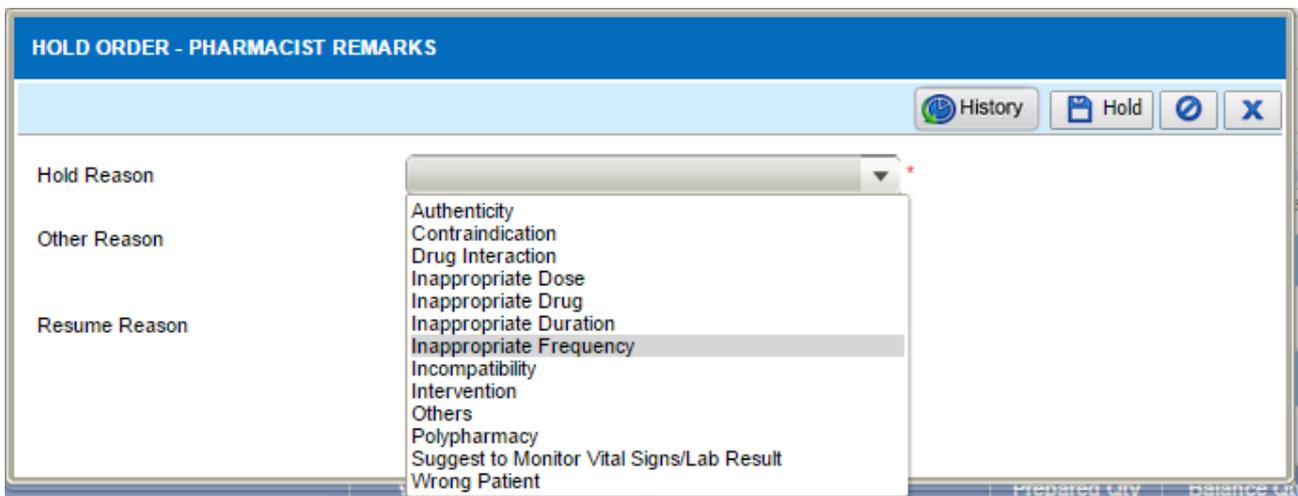


Figure 4.9-3 Hold Order-Pharmacy Remarks

**Note**

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

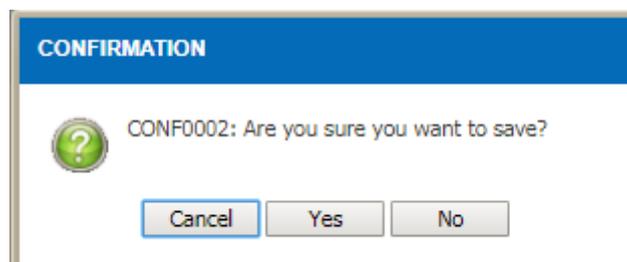
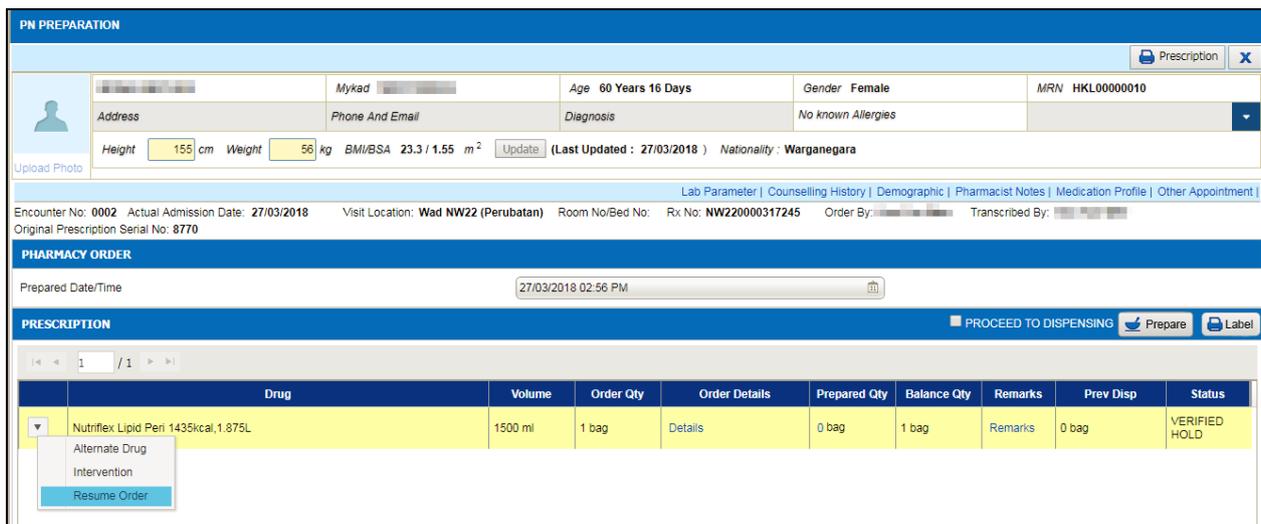


Figure 4.9-4 Confirmation Alert Message



**PN PREPARATION**

Prescription X

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 m<sup>2</sup> (Last Updated: 27/03/2018) Nationality: Warganegara

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

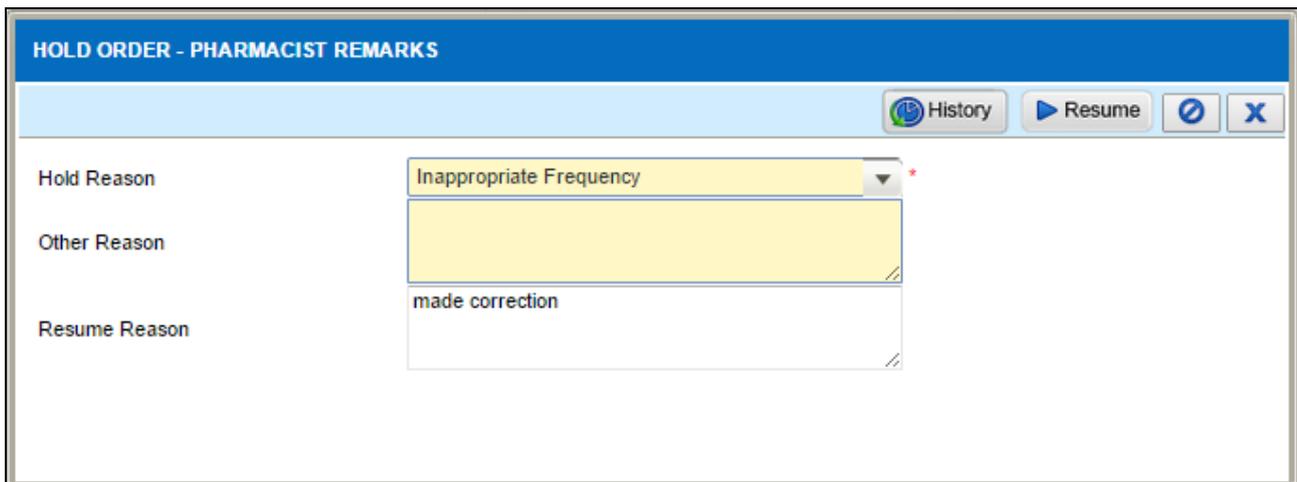
Drug	Volume	Order Qty	Order Details	Prepared Qty	Balance Qty	Remarks	Prev Disp	Status
Nutriflex Lipid Peri 1435kcal,1.875L	1500 ml	1 bag	Details	0 bag	1 bag	Remarks	0 bag	VERIFIED HOLD

Dropdown menu options: 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

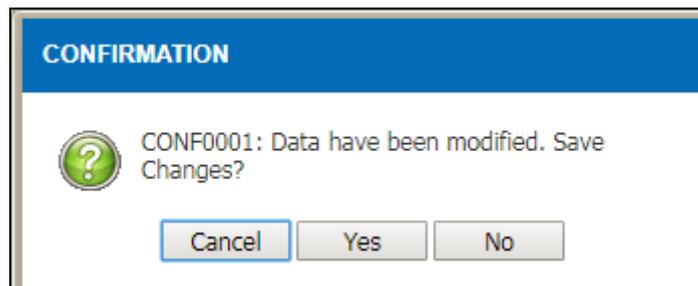
Hold Reason: Inappropriate Frequency \*

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.
- Click on the  button to close Hold Order Reason History listing screen.

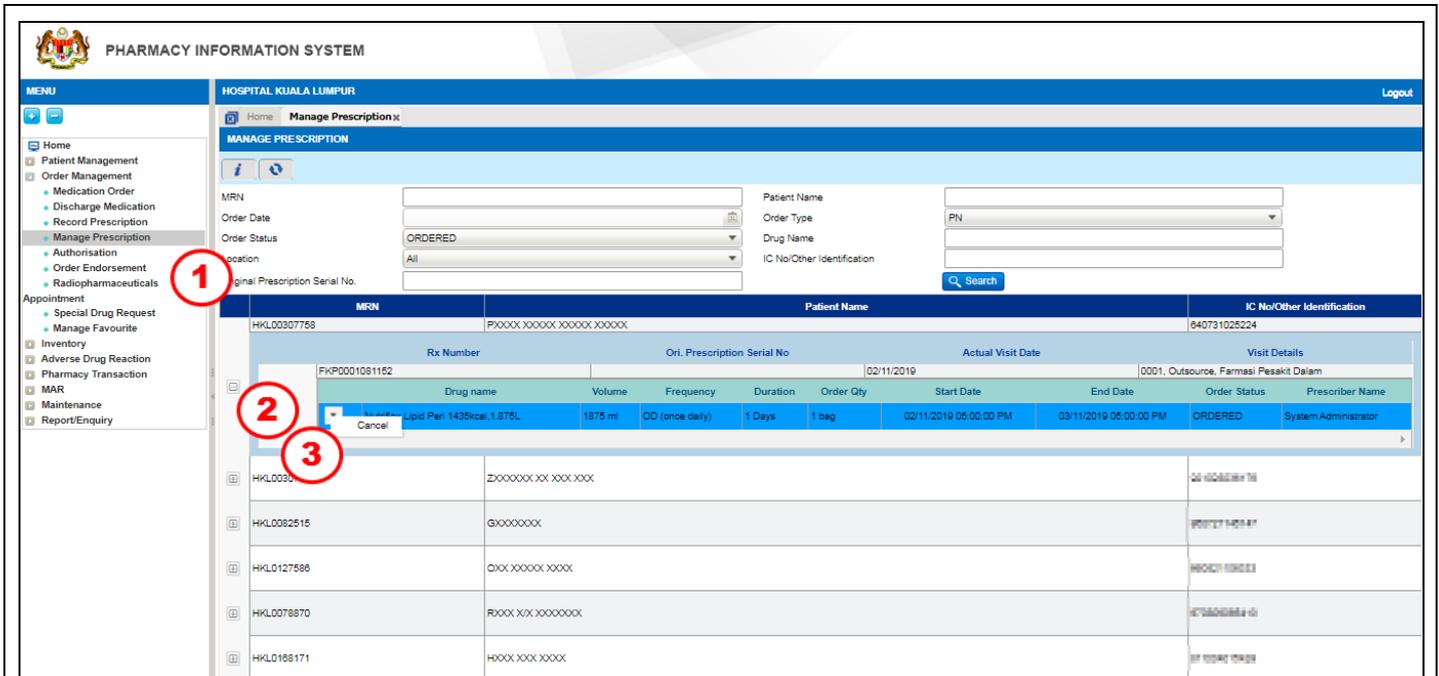


Date/Time	Screen	Hold Reason	Remarks	Resume Remarks	Updated By
20/03/2015 09:42 AM	Preparation	Inappropriate Frequency			Shantasaroopini a/p Sathia Moorthy

**Figure 4.9-8 Hold Order Reason History Listing**

## 5.0 Manage Prescription

### 5.1 Cancel/Stop Order



**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 :-
  - a) PN
- By default list of patient will be displayed according to prescriber location access.
- Various search criteria is provided as below:
  - a) MRN
  - b) Patient Name
  - c) Order Date
  - d) Order Type
  - e) Order Status
  - f) Drug name
  - g) Location
  - h) Original Prescription Serial No
  - i) IC No

**STEP 2**

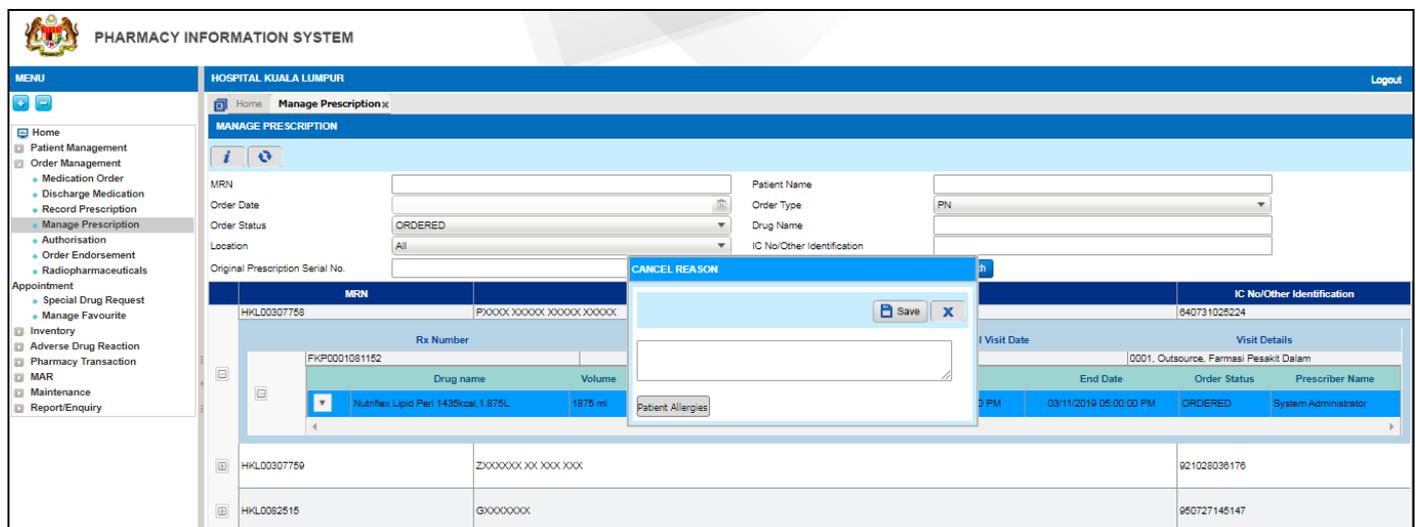
Click on the  expand button to display order details as per Figure 5.1-1

**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  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 several input fields: MRN, Order Date, Order Status (set to 'ORDERED'), Location (set to 'All'), Patient Name, Order Type (set to 'PN'), Drug Name, and IC No/Other Identification. A 'CANCEL REASON' dialog box is open, prompting for a reason for cancellation. Below the dialog, a table lists prescription details:

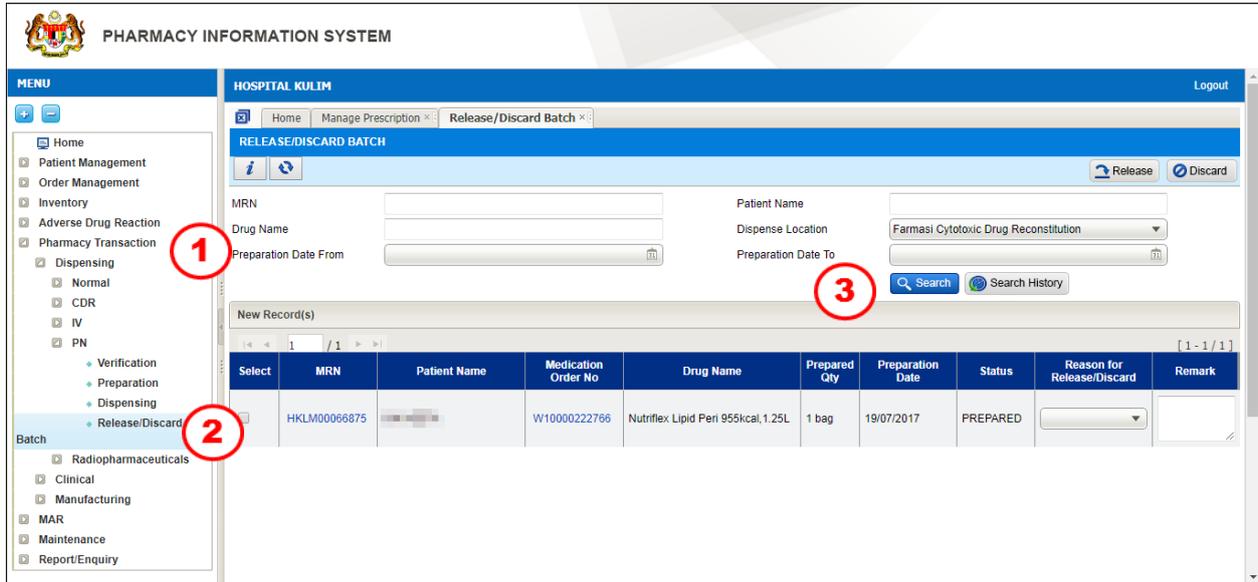
MRN	Rx Number	Drug name	Volume	IC No/Other Identification
HKL00307758	FXP0001081152	Nutrifex Lipid Peri 1435kcal, 1.875L	1875 ml	040731025224
HKL00307759	ZXXXXXXXXXX			921028096176
HKL0082515	GXXXXXXXX			950727145147

**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.



**PHARMACY INFORMATION SYSTEM**

HOSPITAL KULIM

Home | Manage Prescription | Release/Discard Batch

**RELEASE/DISCARD BATCH**

MRN:  Patient Name:   
 Drug Name:  Dispense Location: Farmasi Cytotoxic Drug Reconstitution  
 Preparation Date From:  Preparation Date To:

[ Search ] [ Search History ]

New Record(s)

Select	MRN	Patient Name	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
<input type="checkbox"/>	HKLM0006875	[REDACTED]	W10000222766	Nutriflex Lipid Peri 955kcal.1.25L	1 bag	19/07/2017	PREPARED	[REDACTED]	

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: Example: HPSF00001234 or "1234"
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

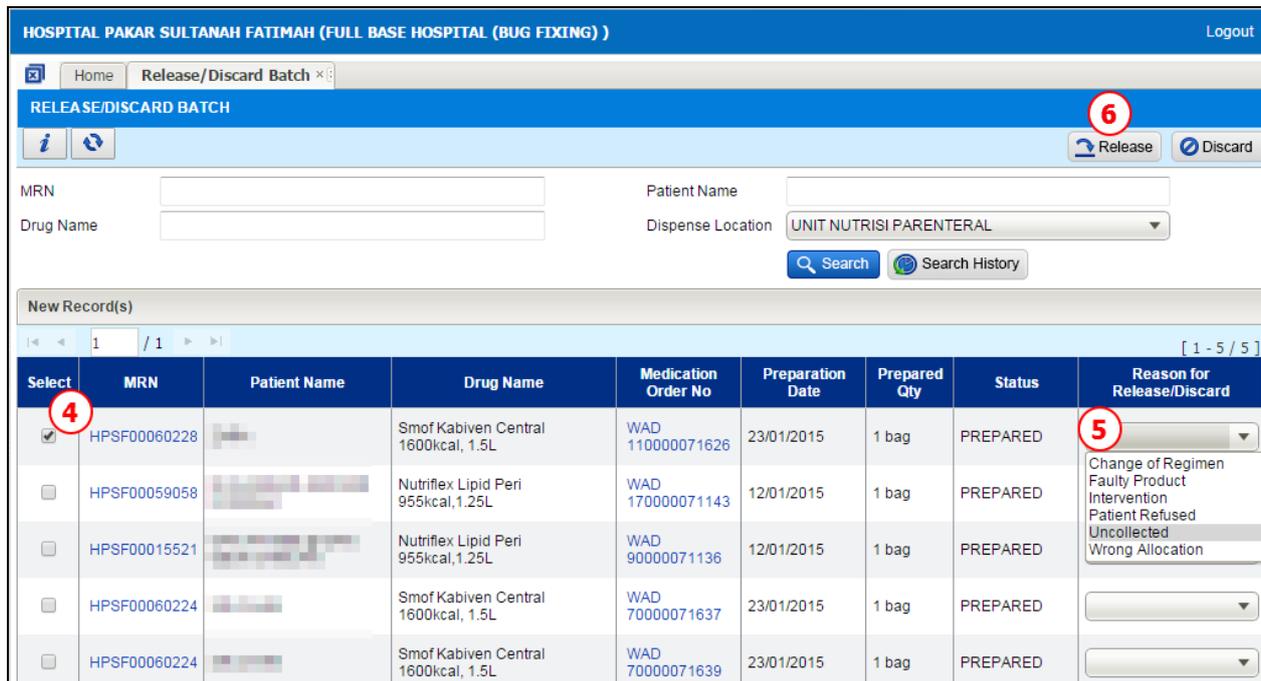
### STEP 3

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



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

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

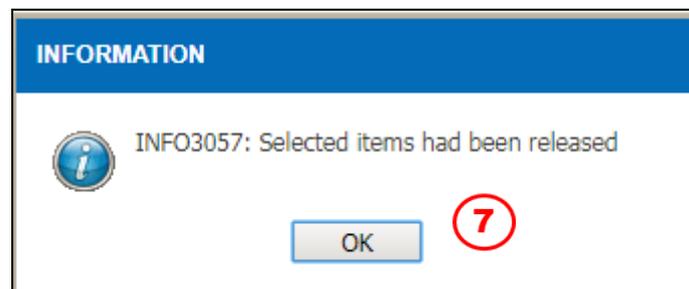
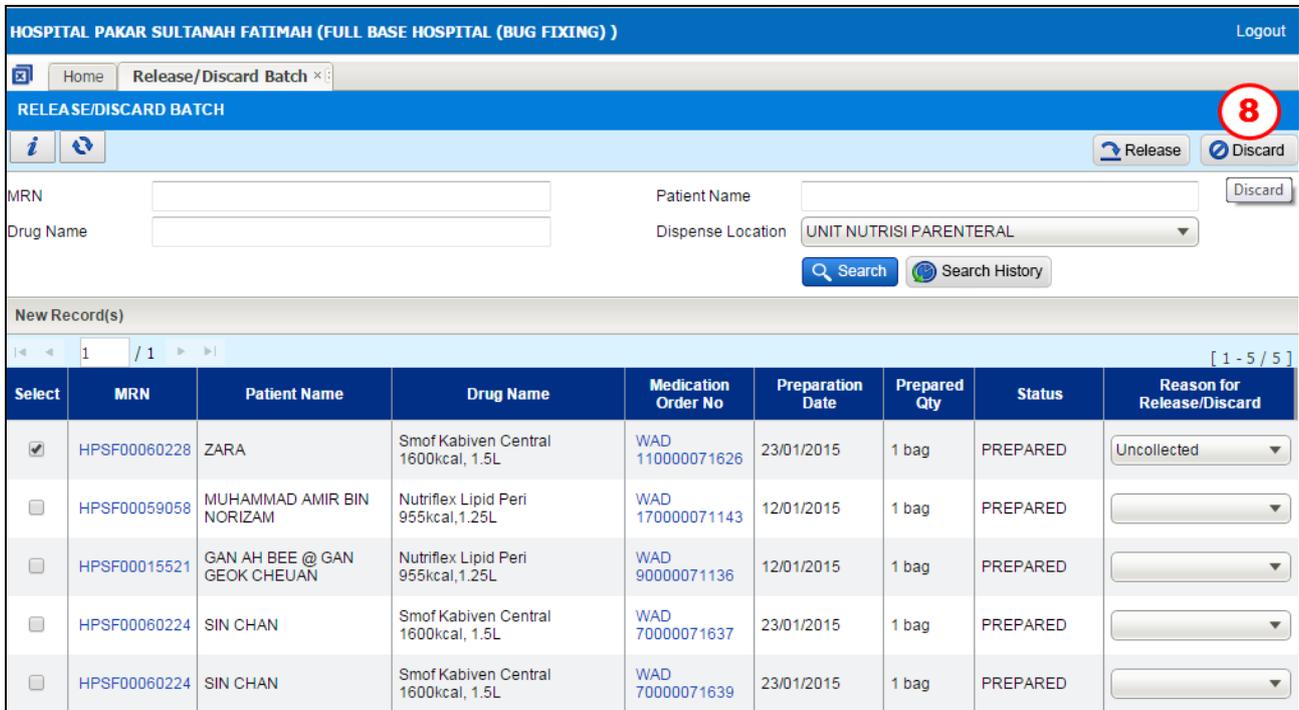


Figure 6.0-3 Alert Message

**STEP 7**

Click on the  button to release order batch

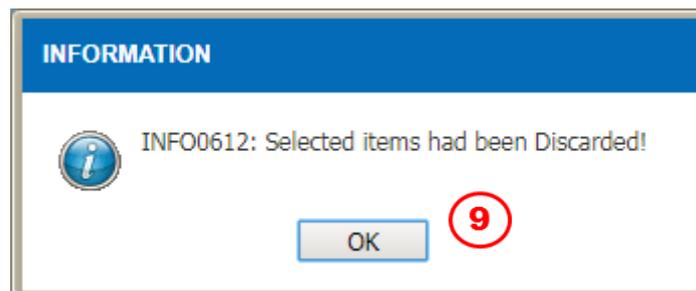


Select	MRN	Patient Name	Drug Name	Medication Order No	Preparation Date	Prepared Qty	Status	Reason for Release/Discard
<input checked="" type="checkbox"/>	HPSF00060228	ZARA	Smof Kabiven Central 1600kcal, 1.5L	WAD 110000071626	23/01/2015	1 bag	PREPARED	Uncollected
<input type="checkbox"/>	HPSF00059058	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:

New Record(s)

Select	MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
<input type="checkbox"/>	HKL0227303	BIXXXXXXXXXXXXXXXXXXXXXX	2566733	SCN0000708039	PN compounded PAEDIATRIC	1 bag	12/02/2019	PREPARED	<input type="text"/>	
<input type="checkbox"/>	HKL0253570	XXXX.XXX.XXX.XX	190416140833	KK60000835553	PN compounded NEONATE	1 bag	07/05/2019	PREPARED	<input type="text"/>	
<input type="checkbox"/>	HKL0249642	BIXXXXXXXXXXXXXXXX	2619963	SCN0000803935	PN compounded PAEDIATRIC_INFANT	1 bag	15/04/2019	PREPARED	<input type="text"/>	
<input type="checkbox"/>	HKL0227839	BIXXXXXXXXXXXXXXX	2566709	SCN0000712868	PN compounded PAEDIATRIC	1 bag	15/02/2019	PREPARED	<input type="text"/>	

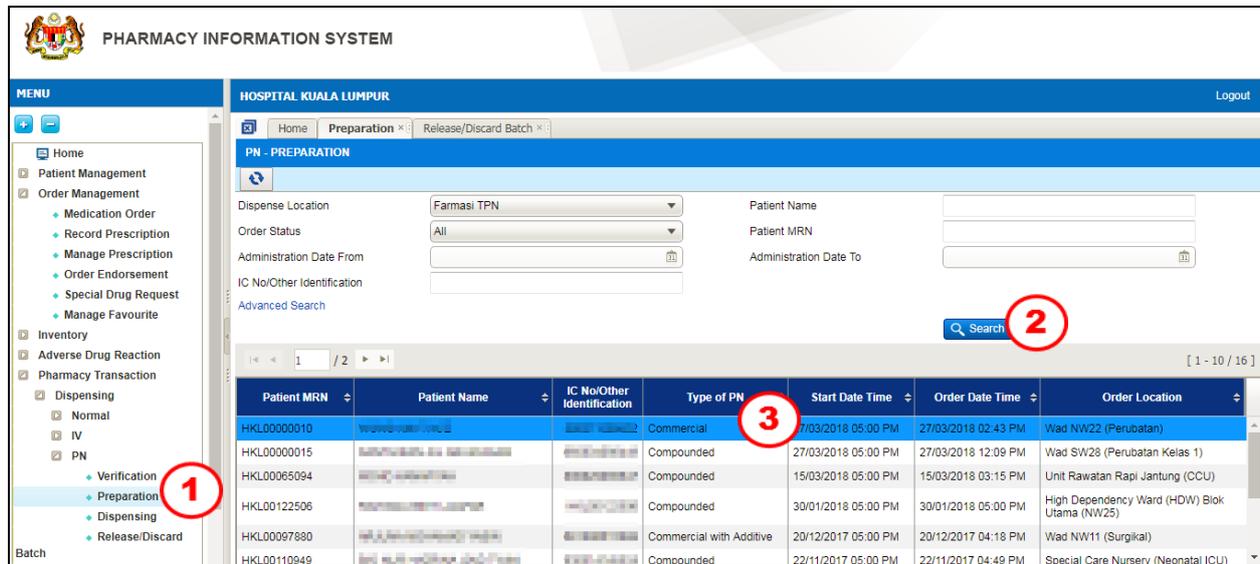
[ 1 - 10 / 32 ]

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



Patient MRN	Patient Name	IC No/Other Identification	Type of PN	Start Date Time	Order Date Time	Order Location
HKL00000010	Wong, Yee Hui		Commercial	7/03/2018 05:00 PM	27/03/2018 02:43 PM	Wad NW22 (Perubatan)
HKL00000015	Wong, Yee Hui		Compounded	27/03/2018 05:00 PM	27/03/2018 12:09 PM	Wad SW28 (Perubatan Kelas 1)
HKL00065094	Wong, Yee Hui		Compounded	15/03/2018 05:00 PM	15/03/2018 03:15 PM	Unit Rawatan Rapi Jantung (CCU)
HKL00122506	Wong, Yee Hui		Compounded	30/01/2018 05:00 PM	30/01/2018 05:00 PM	High Dependency Ward (HDW) Blok Utama (NW25)
HKL00097880	Wong, Yee Hui		Commercial with Additive	20/12/2017 05:00 PM	20/12/2017 04:18 PM	Wad NW11 (Surgical)
HKL00110949	Wong, Yee Hui		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

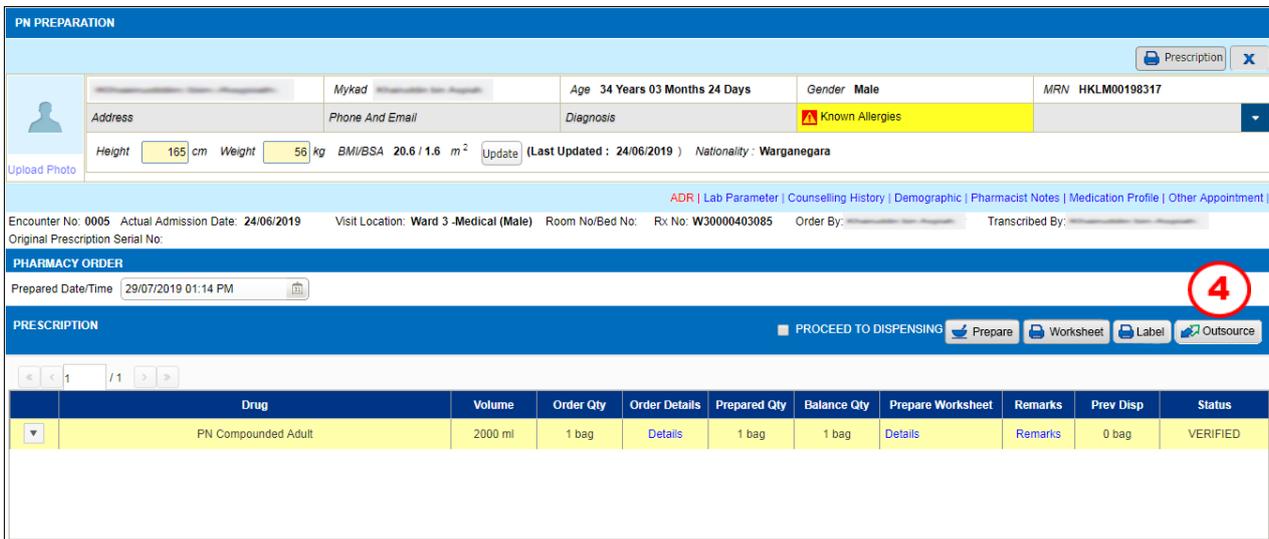
- Various search criteria is provided as below:
  - Dispense Location
  - Patient Name
  - Order Status
  - Patient MRN
- Click on the [Advanced Search](#) hyperlink for advance search.

#### STEP 2

Click on the [Search](#) 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**

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 m<sup>2</sup> Update (Last Updated: 24/06/2019) Nationality: Warganegara

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:

**PHARMACY ORDER**

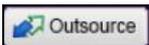
Prepared Date/Time: 29/07/2019 01:14 PM

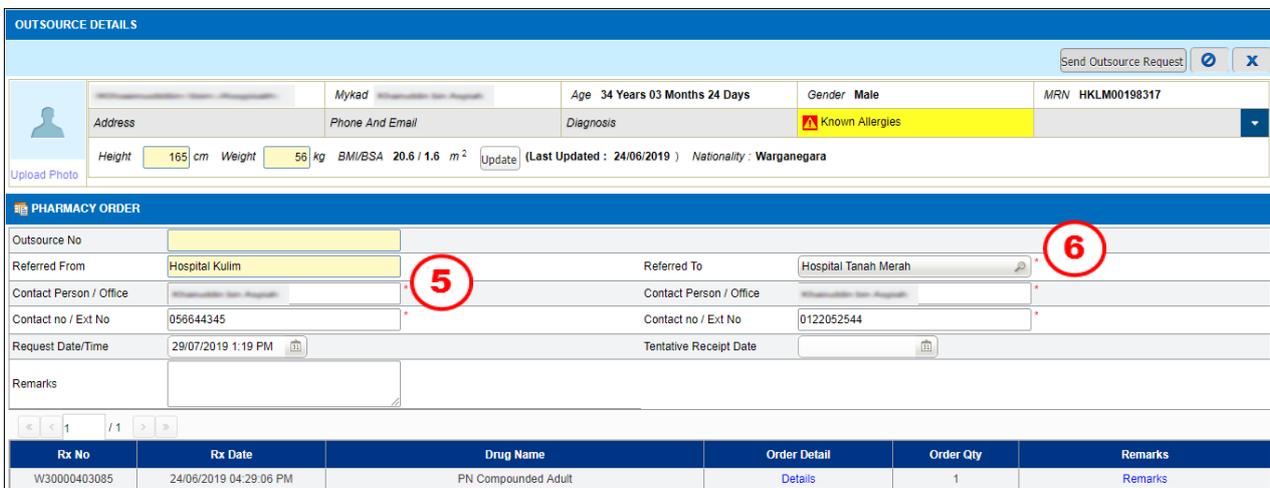
**PRESCRIPTION**

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

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 m<sup>2</sup> Update (Last Updated: 24/06/2019) Nationality: Warganegara

**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: [Redacted]

Remarks: [Redacted]

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.**

Figure 7.1-4 Outsource Details

**STEP 7**

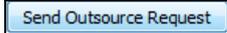
Click on the  button to send outsource request

Figure 7.1-5 Send Request Alert Message

**STEP 8**

Click on the  button to send outsource request

Figure 7.1-6 Outsource Details

**STEP 9**

Click on the  button to close outsource screen as per Figure 7.1-6



## 7.2 Receive Outsource

PHARMACY INFORMATION SYSTEM							
<b>MENU</b> <ul style="list-style-type: none"> <li>Home</li> <li>Patient Management</li> <li>Order Management</li> <li>Inventory</li> <li>Adverse Drug Reaction</li> <li>Pharmacy Transaction</li> <li>MAR</li> <li>Maintenance</li> <li>Report/Enquiry</li> </ul>							
<b>TASK LIST</b> Transaction Type: All <input type="text"/> Search <input type="button"/> [ 1911 - 1913 / 1913 ]							
Transaction Type	Transaction No.	Item Group	Date/Time	Task Status	From Unit/Department	From User	
Indenti(External)	R1914F5001-0019531	Drug	25/10/2019 03:55 PM	Pending For Approval	PHARMACY (Institut Perubatan Respiratori)	Mohd Iahak Mohd Yunus	
Purchase Order	PO19000068	Drug	25/10/2019 04:20 PM	Pending For Approval	Farmasi Logistik	Mohd Iahak Mohd Yunus	
Purchase Order	PO19000069	Drug	25/10/2019 04:29 PM	Pending For Approval	Farmasi Logistik	Mohd Iahak Mohd Yunus	
<b>NOTIFICATION</b> [ 1 - 6 / 6 ]							
Notification Type	Notification No	Title	Date	From Facility/Unit	Attachment		
Slow Moving Item	NO19000003		18/03/2019 01:19 PM	Hospital Tapan			
Slow Moving Item	NO19000015	Slow Moving Item (ECOSORB)	18/03/2019 10:19 AM	Hospital Jerantut			
Slow Moving Item	NO19000002	Slow Moving Item	11/03/2019 03:14 PM	Hospital Tapan			
Slow Moving Item	NO19000002		11/03/2019 01:58 PM	Pejabat Kesihatan Daerah Seberang Perai Tengah			
Slow Moving Item	NO19000003		23/07/2018 11:54 AM	Klinik Kesihatan Chemor			
Slow Moving Item	NO17000008		04/10/2017 01:15 PM	Klinik Kesihatan Tasek Gelugor			
<b>External Notification</b>							
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:		38		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-11-08080019021119-022	XXXXXXXXXX XXXX	Female	Hospital Sen Manjung	02/11/2019 3:51 PM	02/11/2019	Register	
PN-11-08080019051119-024	XXXXXXXXXX XXXX	Male	Hospital Sen 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						
<input type="button"/> Cancel Outsource <input type="button"/> <input type="button"/> <input type="button"/>						
	Mykad	Age 27 Years 08 Days	Gender Female	MRN HKL00307759		
Address	Phone And Email	Diagnosis				
Height <input type="text"/> cm Weight <input type="text"/> kg BMI/BSA 0/0 m <sup>2</sup> (Last Updated: ) Nationality: Warganegara	Upload Photo					
<b>PHARMACY ORDER</b>						
Outsource No	PN-11-08080019021119-022	Sending Status				
Referred From	Hospital Sen Manjung	Referred To	Hospital Kuala Lumpur			
Contact Person / Office		Contact Person / Office				
Contact no / Ext No	13249823423434	Contact no / Ext No				
Request Date/Time	02/11/2019 3:51 PM	Tentative Receipt Date	02/11/2019			
Remarks						
[ 1 - 1 / 1 ]						
Rx No	Rx Date	Drug Name	Order Detail	Order Qty	Remarks	
W10000324894	02/11/2019 12:00:00 AM	PN Compounded Adult	<a href="#">Details</a>	1	<a href="#">Remarks</a>	

Figure 7.2-3 Outsource Details

**Note**

User is allowed to cancel the transaction by click on the button

Outsource No	Patient Name	Gender	From(Hospital/Clinic)	Request Date/Time	Tentative Receipt Date	Register
PN-11-08080010021119-022	...	Female	Hospital Seri Manjung	02/11/2019 3:51 PM	02/11/2019	<a href="#">Register</a>
PN-11-08080010051119-024	...	Male	Hospital Seri Manjung	05/11/2019 12:28 PM	05/11/2019	<a href="#">Register</a>

Figure 7.2-4 Outsource Listing

**Step 2**

Click on the Register hyperlink to register outsource patient and Ward Management window will be display as Figure 7.2- 5

**WARD MANAGEMENT**

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

Address:  Phone And Email:  Diagnosis:  No known Allergies

Height: 160 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m<sup>2</sup> (Last Updated: ) Nationality: Warganegara

Visit Type: Outsource **3** Visiting Doctor:  Referral Encounter: Main Encounter

Encounter No:  Created Date/Time: 05/11/2019 01:49:16 PM Actual Visit Date/Time: 05/11/2019 01:49:16 PM

Department/Discipline:  Full Paying Patient:

Location: PPN  Facility RN Number:

Room No:  Specialist:  Attending Doctor:

Collection Mode:  Referred By:

Facility Encounter No:  Visit Case:  New Case  Follow-Up

**TRANSFER DETAILS LIST**

Transfer From	Bed No. From	Transfer To	Bed No. To	Transfer Date
No Records Found!				

**DISCHARGE**

Discharge:  Deceased/Death:  End Visit:

Discharge Date:  Doctor:

Discharge Type:  Decease Date Time:

Discharge By:

Billing Amount:  Receipt Number:

Figure 7.2-5 Ward Management

**STEP 3**

Select **Department/discipline** and **Location** from dropdown menu

**STEP 4**

Click on the button to save the registered outsource patient

**Note**

After save, user need to proceed with record prescription process as follow

**MEDICATION ORDER**

Select Registered Patient: All  HKL00307759 **5** Dispensing Location: Farmasi Klinik Pakar

Figure 7.2-6 Medication Order

**STEP 5**

Search for the outsource registered patient and screen will be shown as Figure 7.2-6

**MEDICATION ORDER**

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

MyKad: 921028038176 Age: 27 Years 08 Days Gender: Female MRN: [REDACTED]

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

Height: 160 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m<sup>2</sup> G6PD: [REDACTED] Update (Last Updated: 05/11/2019) Nationality: Warganegara

**VISIT/ADMISSION**

Encounter No: 0002 Visit Type: Outpatient Location: [REDACTED] Department: [REDACTED]

Full Paying Patient: [REDACTED] Breast Feeding: [REDACTED] 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	

**PARTIAL SUPPLY**

Order Date: [REDACTED] Order Location: [REDACTED] Visit Type: [REDACTED] Department: [REDACTED] Prescription No.: [REDACTED] Original Prescription No.: [REDACTED] Next Collection Date: [REDACTED] Next Collection Mode: [REDACTED] Dispense Location: [REDACTED]

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

MyKad: 921028038176 Age: 27 Years 08 Days Gender: Female MRN: [REDACTED]

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

Height: 160 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m<sup>2</sup> G6PD: [REDACTED] Update (Last Updated: 05/11/2019) Nationality: Warganegara

**VISIT/ADMISSION**

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

Breast Feeding: [REDACTED] Pregnant: [REDACTED] Week: [REDACTED]

**VISIT RECORD**

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

**PN ORDER**

Calorie Calculator Outsource Form Outsource

Type of PN: Commercial / MOH Pre mix (Std. Soln) Add Additive Ward Stock 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							
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: Phone And Email: Diagnosis: No known Allergies

Height: 160 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m<sup>2</sup> G6PD: Update (Last Updated: 05/11/2019) Nationality: Warganegara

**VISIT/ADMISSION**

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

**VISIT RECORD**

Original Prescriber Name: Original Prescription Serial No: Outsource Patient MRN: HSM003170

**PN ORDER**

PN for: Adult Paediatric Infant Paediatric Neonate

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

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION**

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: Phone And Email: Diagnosis: No known Allergies

Height: 160 cm Weight: 50 kg BMI/BSA: 19.5 / 1.49 m<sup>2</sup> G6PD: Update (Last Updated: 05/11/2019) Nationality: Warganegara

**VISIT/ADMISSION**

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

**VISIT RECORD**

Original Prescriber Name: Original Prescription Serial No: Outsource Patient MRN: HSM003170

**PN ORDER**

**PRESCRIPTION**

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
  - Section [4.0 Parental Nutrition \(PN\) Order, Verify and Prepare](#)
  - 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	<a href="#">Click Here</a>	12	CDR Dispensing	<a href="#">Click Here</a>
2	CDR Order	<a href="#">Click Here</a>	13	Methadone Dispensing	<a href="#">Click Here</a>
3	TDM Order	<a href="#">Click Here</a>	14	PN Dispensing	<a href="#">Click Here</a>
4	PN Order	<a href="#">Click Here</a>	15	Order Management	<a href="#">Click Here</a>
5	IV Order	<a href="#">Click Here</a>	16	Patient Management	<a href="#">Click Here</a>
6	Prepacking	<a href="#">Click Here</a>	17	Radiopharmaceuticals	<a href="#">Click Here</a>
7	Galenical	<a href="#">Click Here</a>	18	Outpatient	<a href="#">Click Here</a>
8	MTAC	<a href="#">Click Here</a>	19	Special Drug Request	<a href="#">Click Here</a>
9	ADR & DAC	<a href="#">Click Here</a>	20	MAR	<a href="#">Click Here</a>
10	Medication Counselling	<a href="#">Click Here</a>	21	DICE	<a href="#">Click Here</a>
11	Ward Pharmacy	<a href="#">Click Here</a>	22		