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

User Manual
Parenteral Nutrition (PN)

Version	**: 13th Edition**
Document ID	**: PB_U. MANUAL_PN**

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Reference ID : PB_U. MANUAL_PN -13th E

Application reference: PhIS & CPS v2.6.1

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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, lV Admixture & Eye Drop , Radiopharmaceuticals and Extemporaneous
8. Adverse Drug Reaction & Drug Allergic (ADR & DAC)
9. Clinical Pharmacokinetics Services (TDM)
10. Drug Information & Consumer Education (DICE)
11. Medication Therapy Adherence Clinic (MTAC)
12. Data Mining (PhARM)

1.2 Purpose and Objectives

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

User will understand the following activities in details:

1.3 Organised Sections

These are the sections within this document:

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

2.0 Application Standard Features

2.1 PhIS Legend

LOGIN	Login to PhIS	Logout	Logout from PhIS
Change Password	Change Login Password		Reset Login Screen
	Expand Menu		Collapse Menu
Home	Display Home Tab		Expand Module
	Collapse Module		Close All Open Tabs
	Refresh Screen	Search	Search Record
	Add/Create New Record		Show Help
	Print	*	Mandatory Field
	Calendar Icon		Search Icon
	Close Window		Radio Button
	Checkbox		Edit Record
	Cancel		Delete Record
	Save	Export to Excel	Export and Open Report in Excel Format
Confirm	Confirm Button	Delete	Delete Item from the list
Refresh Prescription	Refresh Prescription	Yes	Yes Button
OK	OK Button		Dropdown Box
	Automatically Display/Retrieve Box		Empty Text Box

Parenteral Nutrition Module Legend			
Verify	Verification Prescription	Prepare	Preparation Prescription
Dispense	Dispensing	Label	Edit and Print Label
Outsource	Outsource Product	Calculate	Calculate
Worksheet	Generate Worksheet	Release	Release Batch
Discard	Discard Batch	Search History	Search History
Nutritional Assessment	Nutritional Assessment	Cancel	Cancel Button
Calorie Calculator	Calorie Calculator	Calculate	Calculate
Hold	Hold Button	Auto Allocation	Auto allocation
Send Outsource Request	Sent Outsource Request		

Note

- To learn more about Login Information, kindly click Login Information module for descriptive steps.

3.0 Parenteral Nutrition (PN)

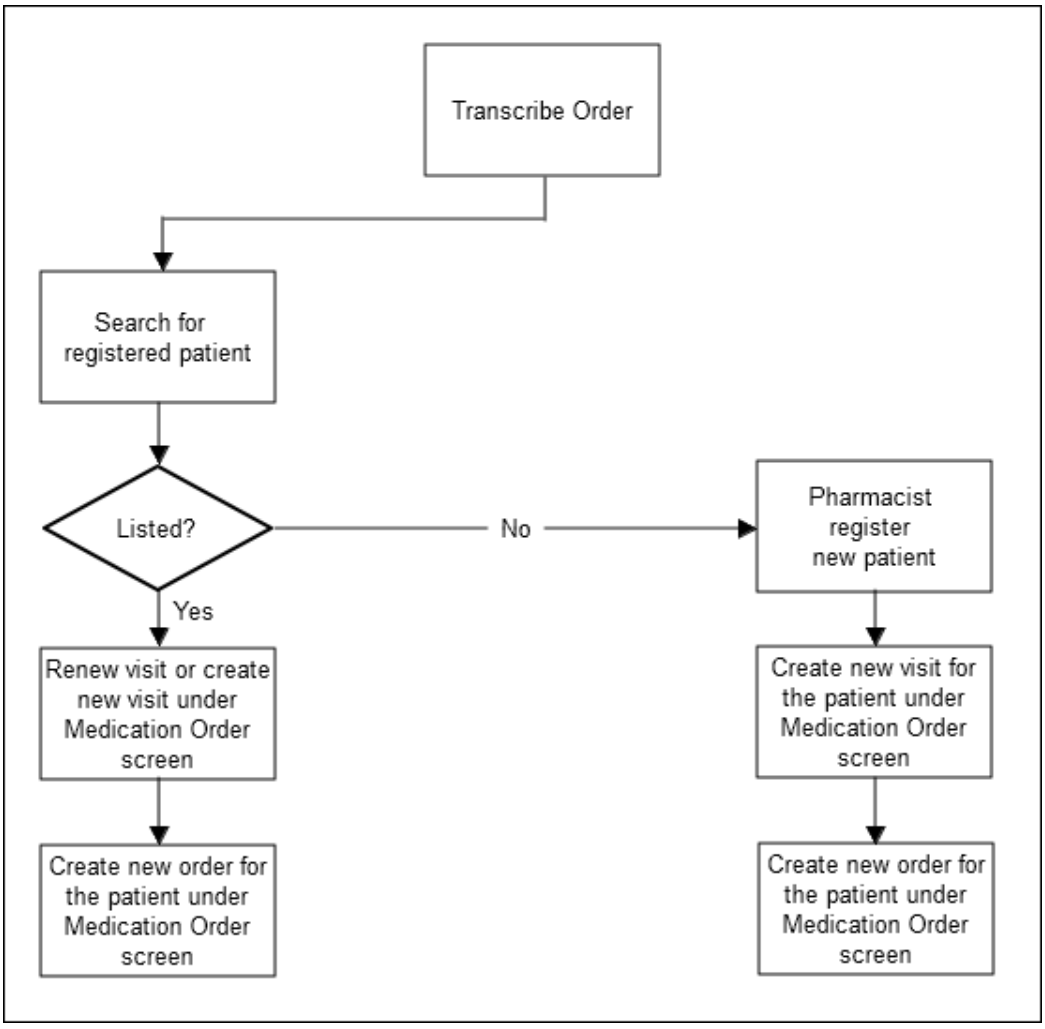
Overview

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

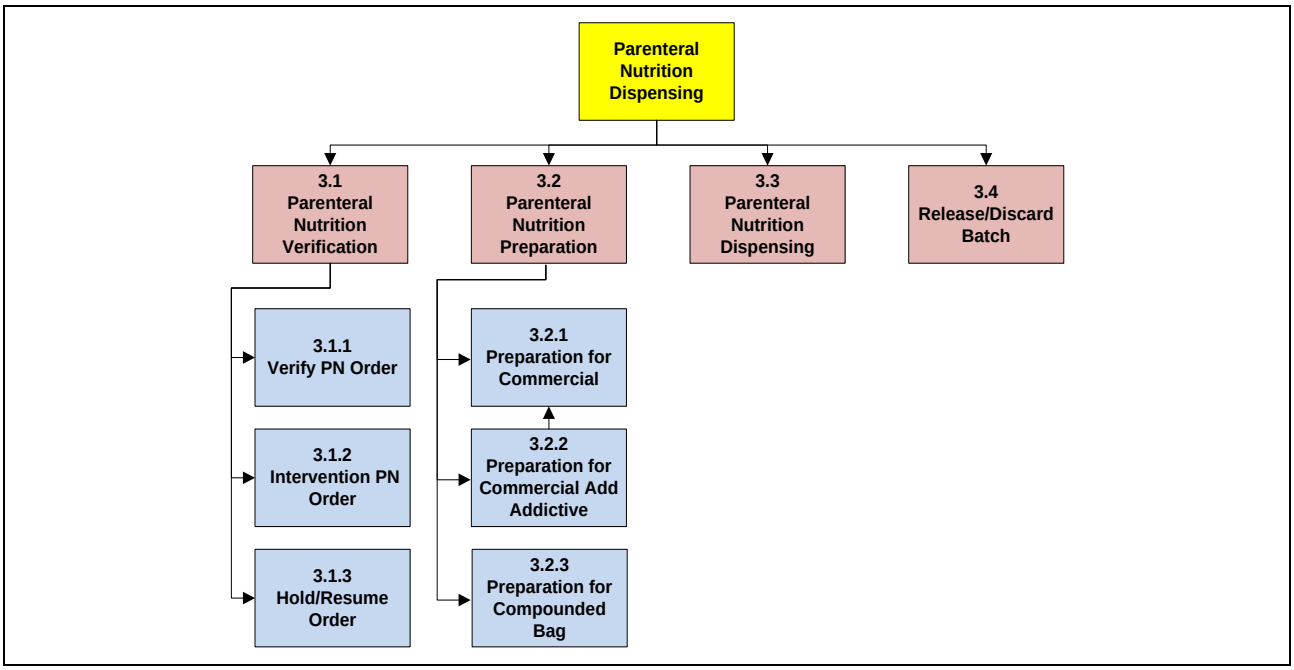


Figure 3.0-1

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.

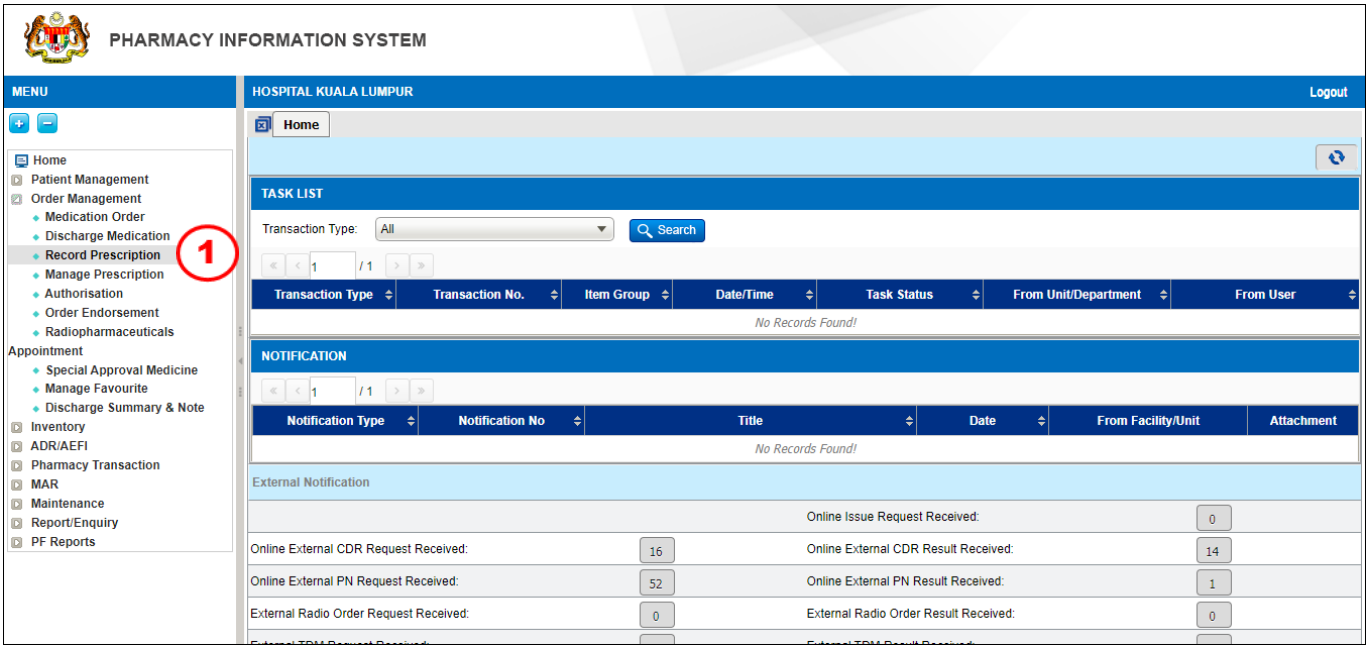


Figure 3.1-1 PhIS Home page

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

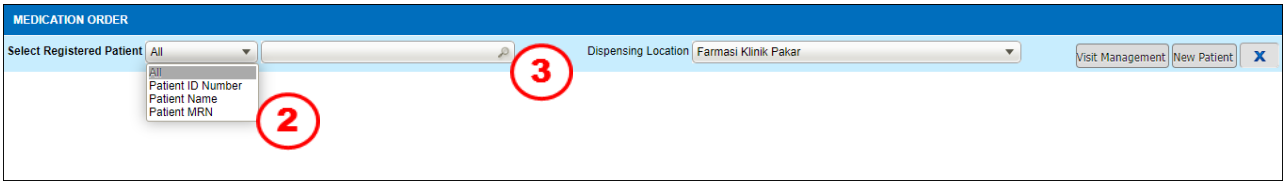


Figure 3.1-2 Medication Order

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 New Patient *button and the 'Patient Registration' screen will be displayed.*

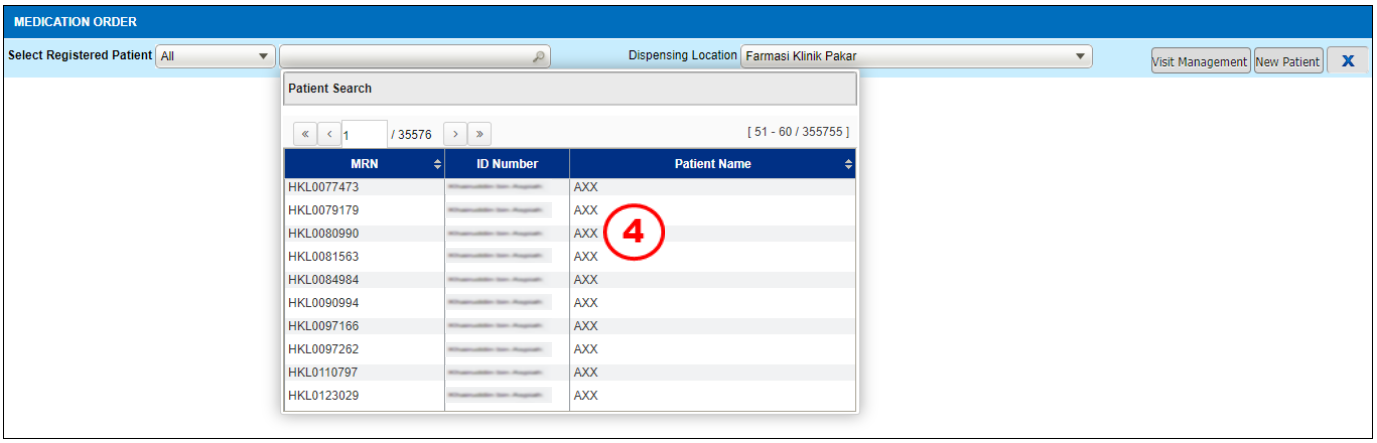


Figure 3.1-3 Search Patient

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

Note

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

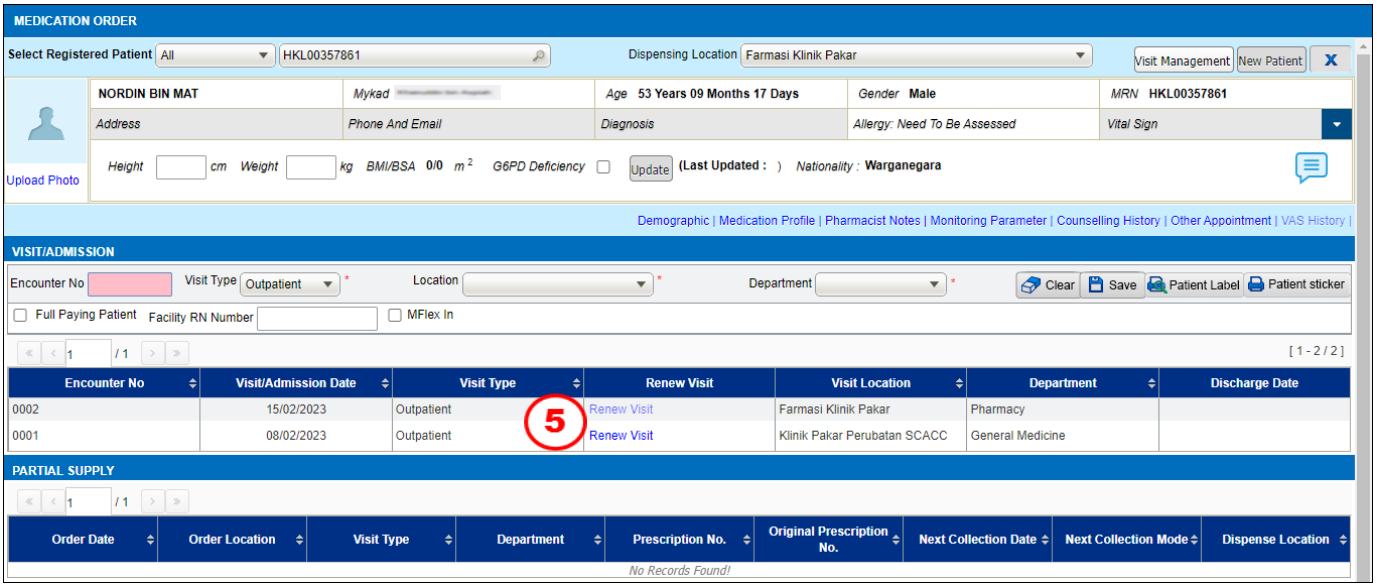


Figure 3.1-4 Visit/Admission Detail

STEP 5
Double-click on the selected visit

Note

- *Once double click on patient system will pop up message to declare allergy for the patient as shown in Figure 3.1-5*

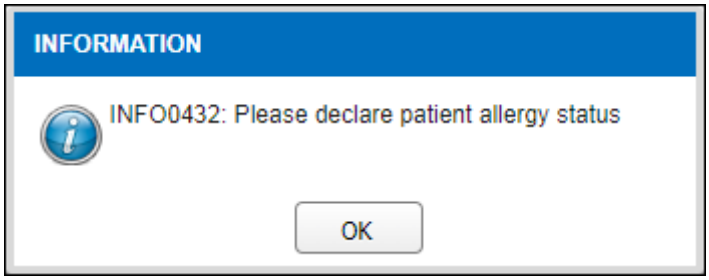


Figure 3.1-5 Information Message

- *Click on* OK *button and ordering screen will be shown in Figure 3.1-6*

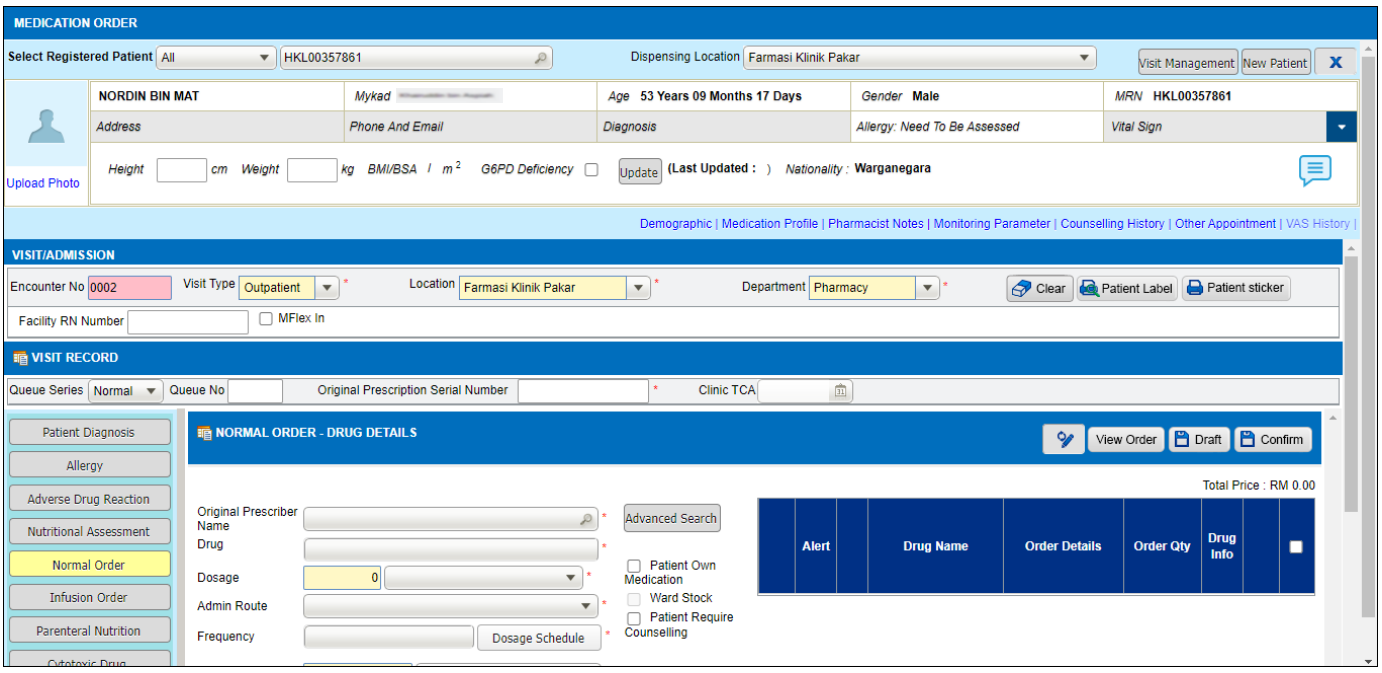


Figure 3.1-6 Medication Order Detail

3.2 New Patient Registration

This page is used to register new patient

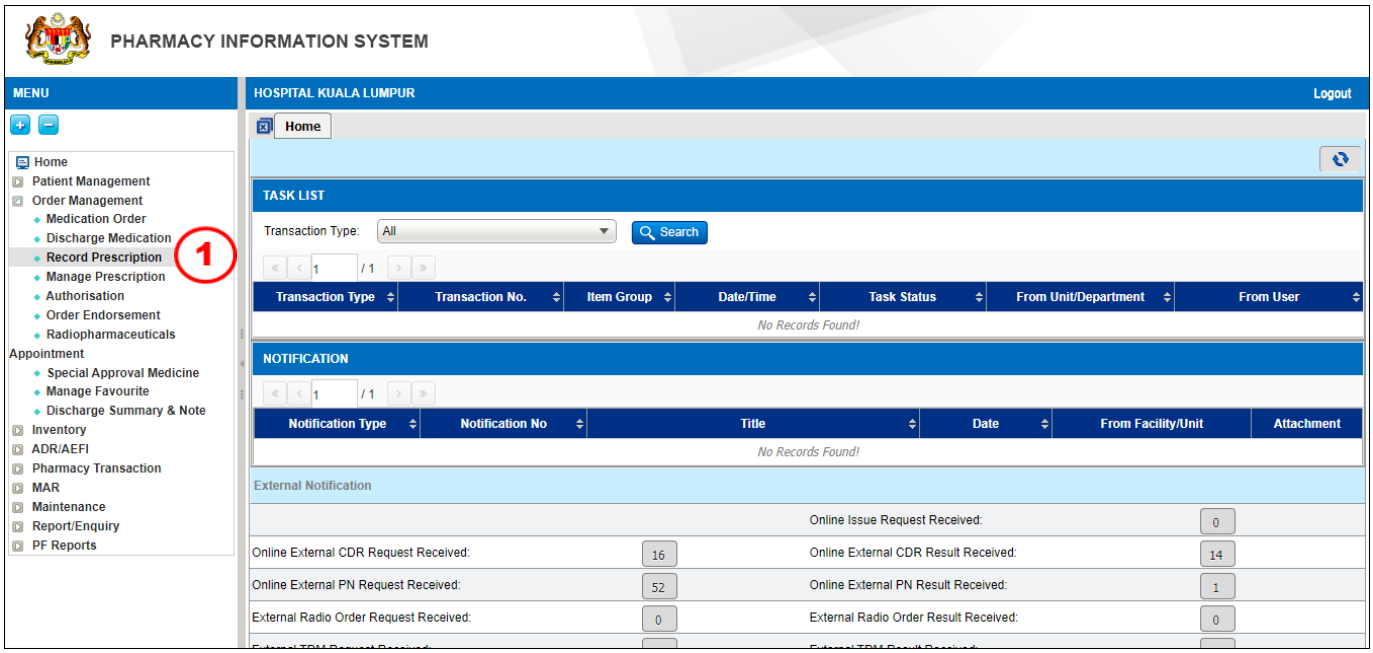


Figure 3.2-1 PhIS Home Page

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

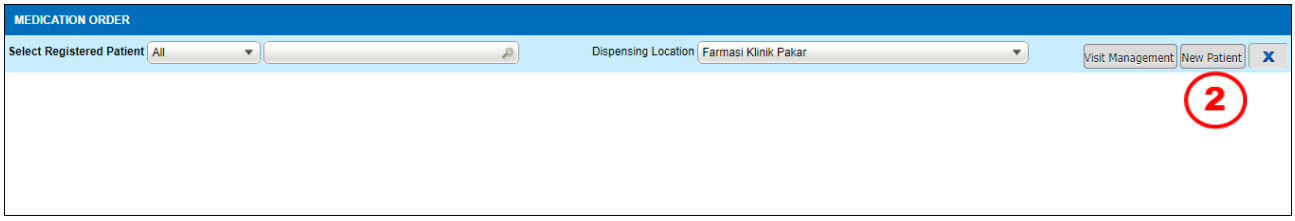


Figure 3.2-2 Transcribe Order Create New Patient

STEP 2

Click on the New Patient to register for new patient

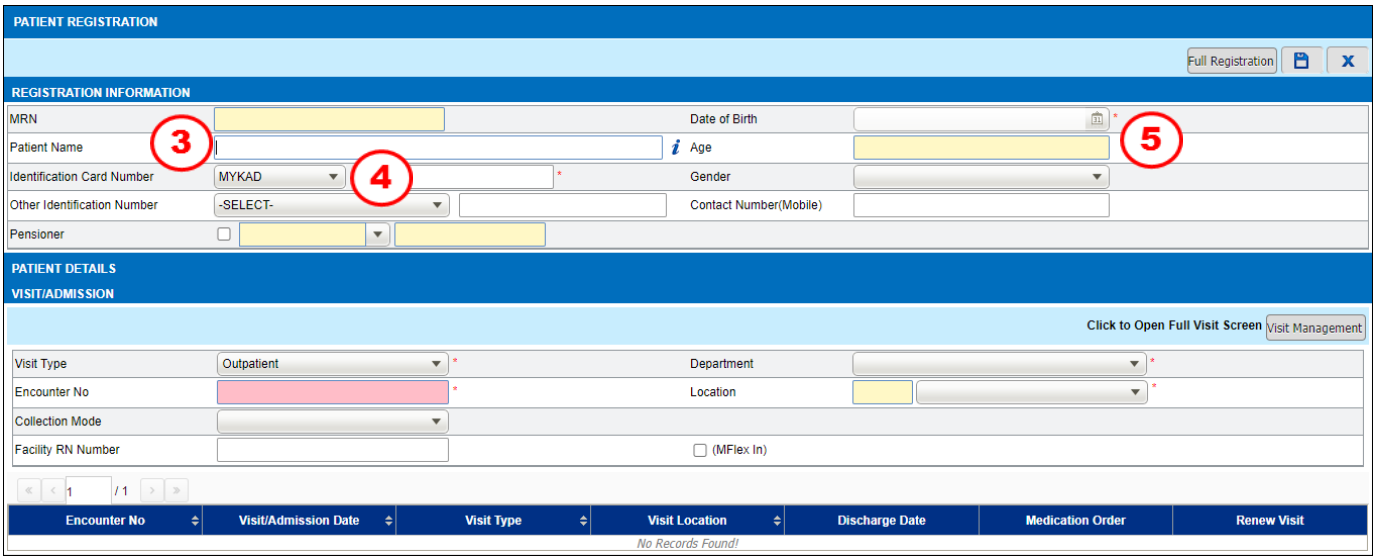


Figure 3.2-3 Registration Information

STEP 3
Enter ***Patient Name***

STEP 4
Select from ***Identification Card Number*** drop down box:
- MYKAD
- MYKID

and enter the relevant number

Note

- *After enter the **Identification Card Number** the below details will be displayed:*
  - *Date of Birth (dd/mm/yy)*
  - *Age (42Y 05M 21D)*
  - *Gender (Male/Female)*

- *If MYKAD/MYKID is unavailable, user is required to select the **Other Identification Number** dropdown box:*
  - *Birth Certificate*
  - *Driving License*
  - *Father IC*
  - *Military Card Number*
  - *Mother IC*
  - *MyKAS*
  - *MyPR*
  - *Old IC*
  - *Others*
  - *Passport*
  - *Pension Card*
  - *Police Card Number*
  - *UNHCR*
  - *Unknown Patient*
  - *Work Permit*

  and enter the relevant number.

STEP 5
Enter ***Contact Number (Mobile)***

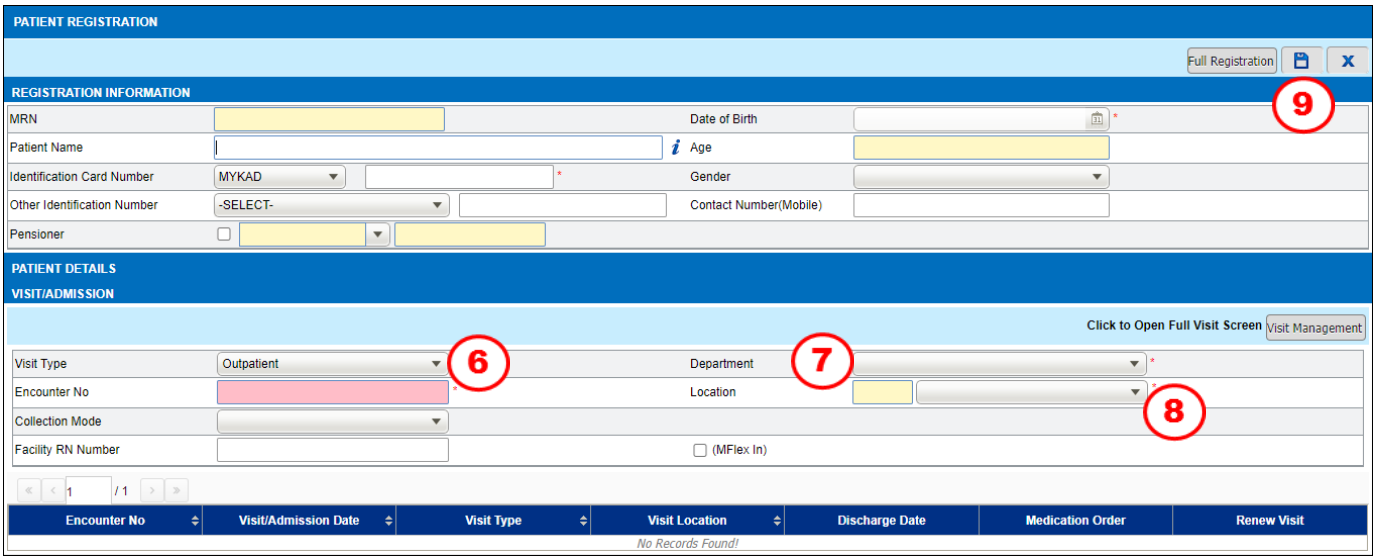


Figure 3.2-4 Visit/Admission

STEP 6
Select the ***Visit Type*** from dropdown box:

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

STEP 7
Select the ***Department*** from dropdown box

Note
Department *will tie to the selected visit type.*

STEP 8
Select ***Location*** from dropdown box

Note
Location *will tie to the selected Department.*

STEP 9

Click on the button to save the record. The 'Medication Order' screen will be displayed as per Figure 3.2-6

Note

- *After click the save button, system will automatically generate the* ***MRN*** *(Medical Record Number) and , and buttons will be enabled.*
- *Click on the Full Registration button to access to 'Visit Management' screen.*
- *Another option to register a new patient is to click on the New Patient Registration button located under Patient Quick Registration*
- *Once complete patient registration pop up message for alert allergy will be shown as Figure 3.2-5.*

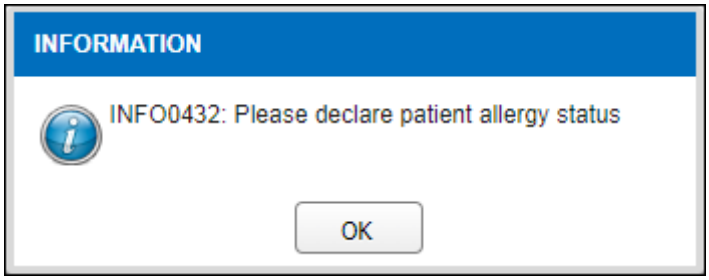


Figure 3.2-5 Information Message

- *Click on* OK *button and ordering screen will be shown in Figure 3.2-6*

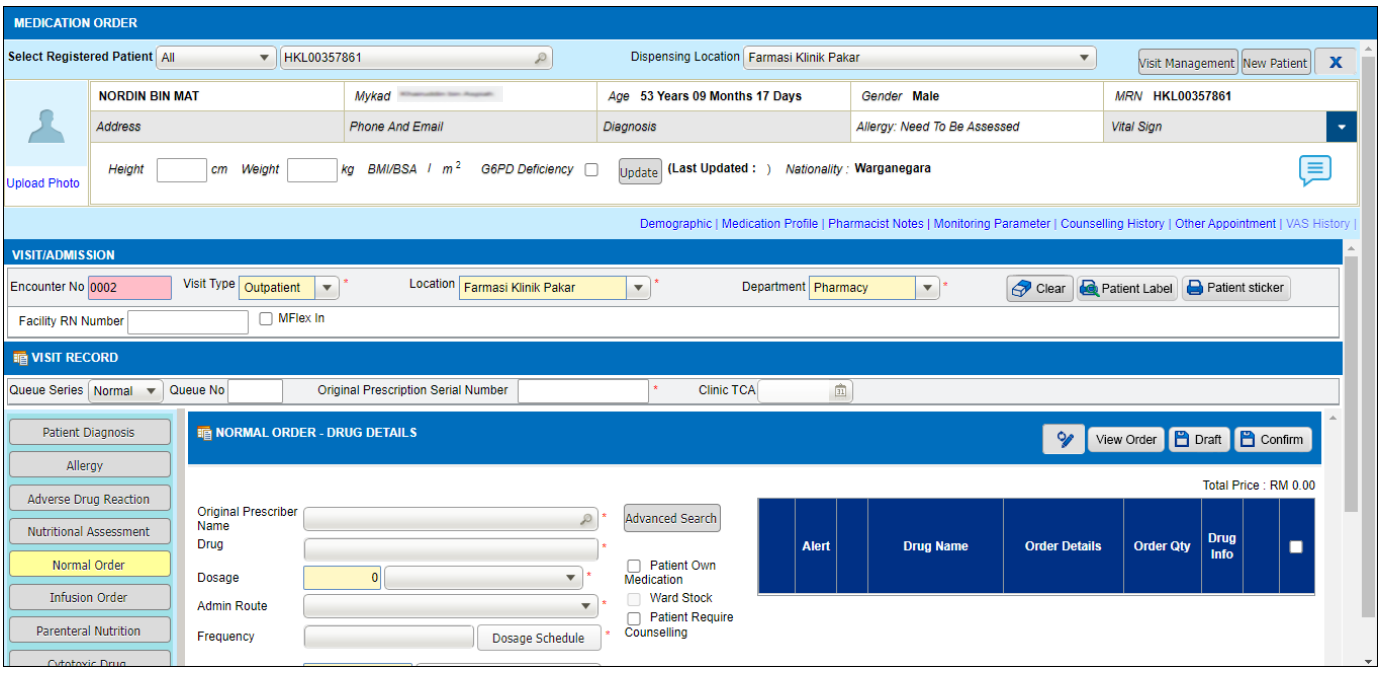


Figure 3.2-5 Medication Order Details

- *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

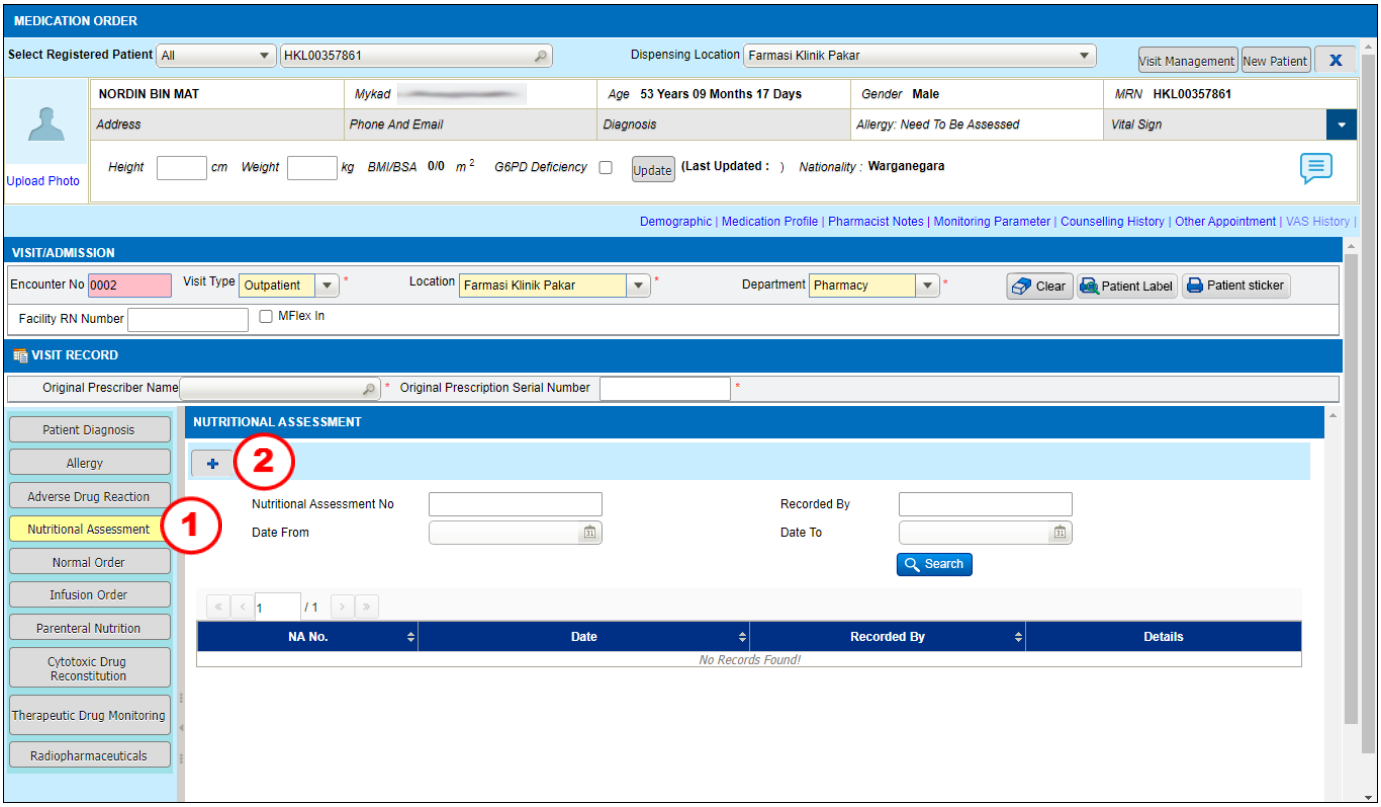


Figure 4.1-1 Nutritional Assessment

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

Note

To enter nutritional assessment user need to enter value for weight and height of patient or system will be alert message as shown in Figure 4.1-2

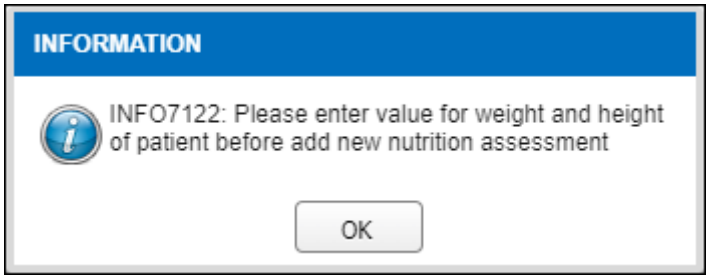


Figure 4.1-2 Information Message

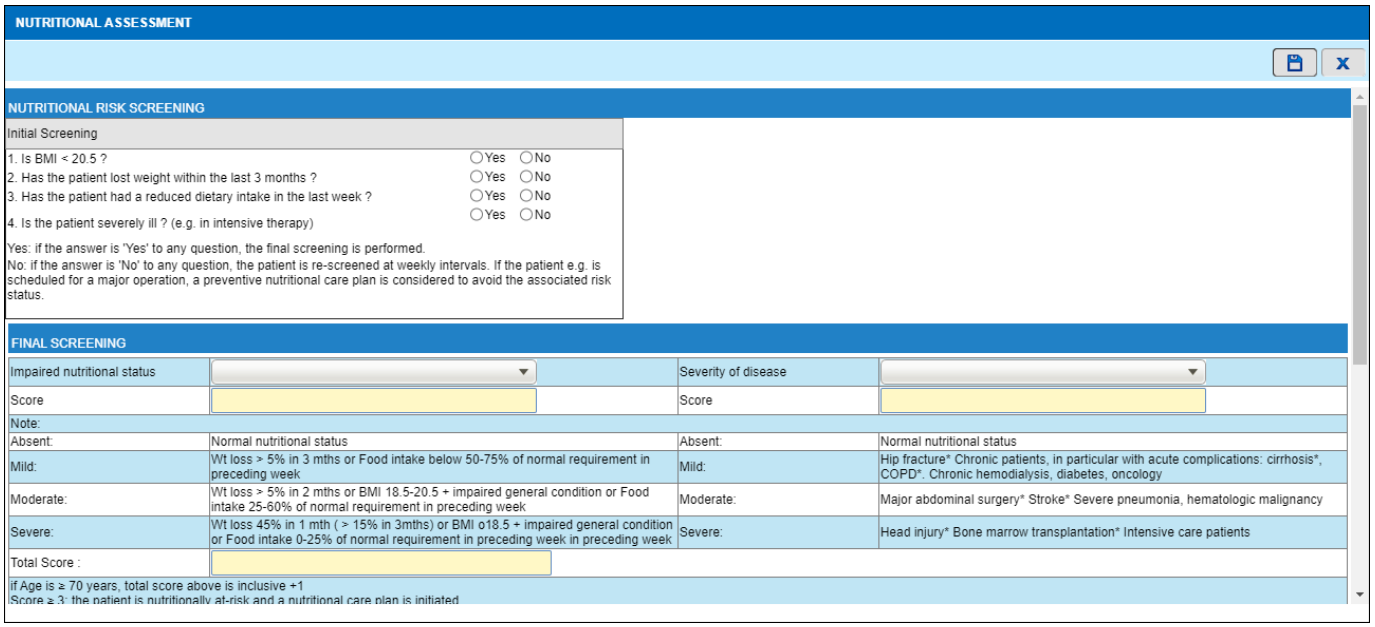


Figure 4.1-3 Nutritional Assessment

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.*

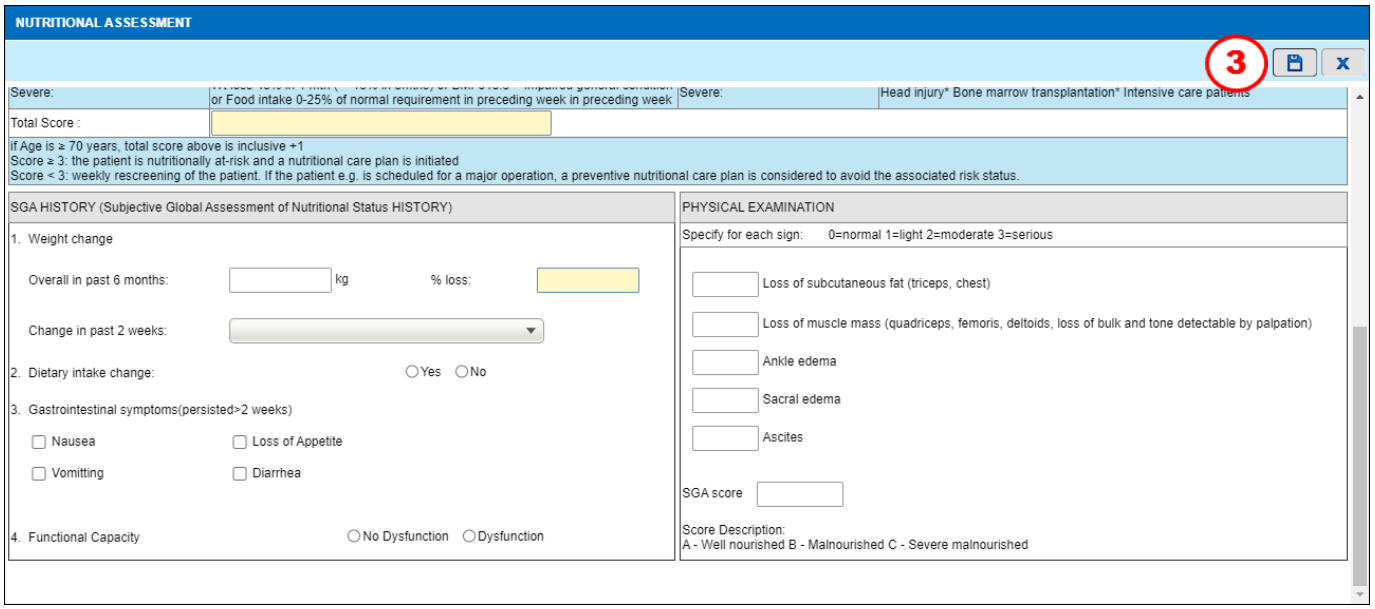


Figure 4.1-4 Nutritional Assessment

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.*

STEP 3

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

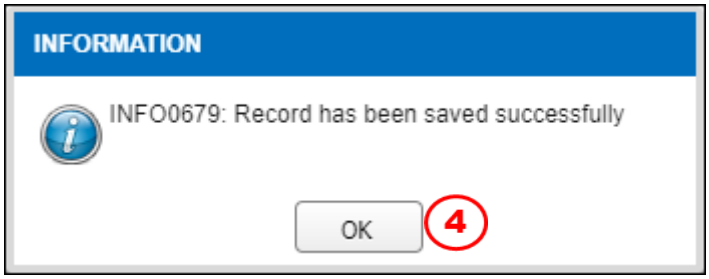


Figure 4.1-5 Information Alert Message

STEP 4

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

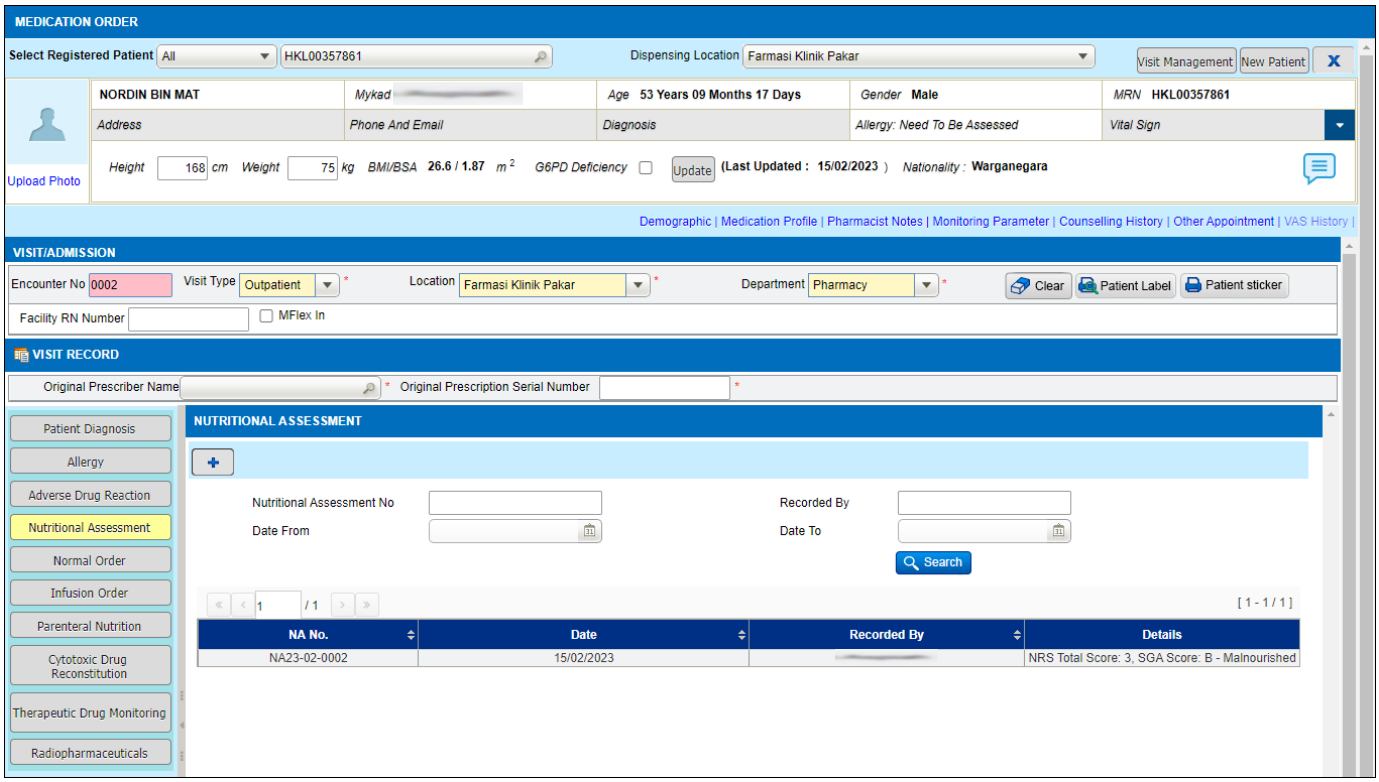


Figure 4.1-6 Nutritional Assessment Listing

4.2 Calorie Calculator

To calculate patient's calorie

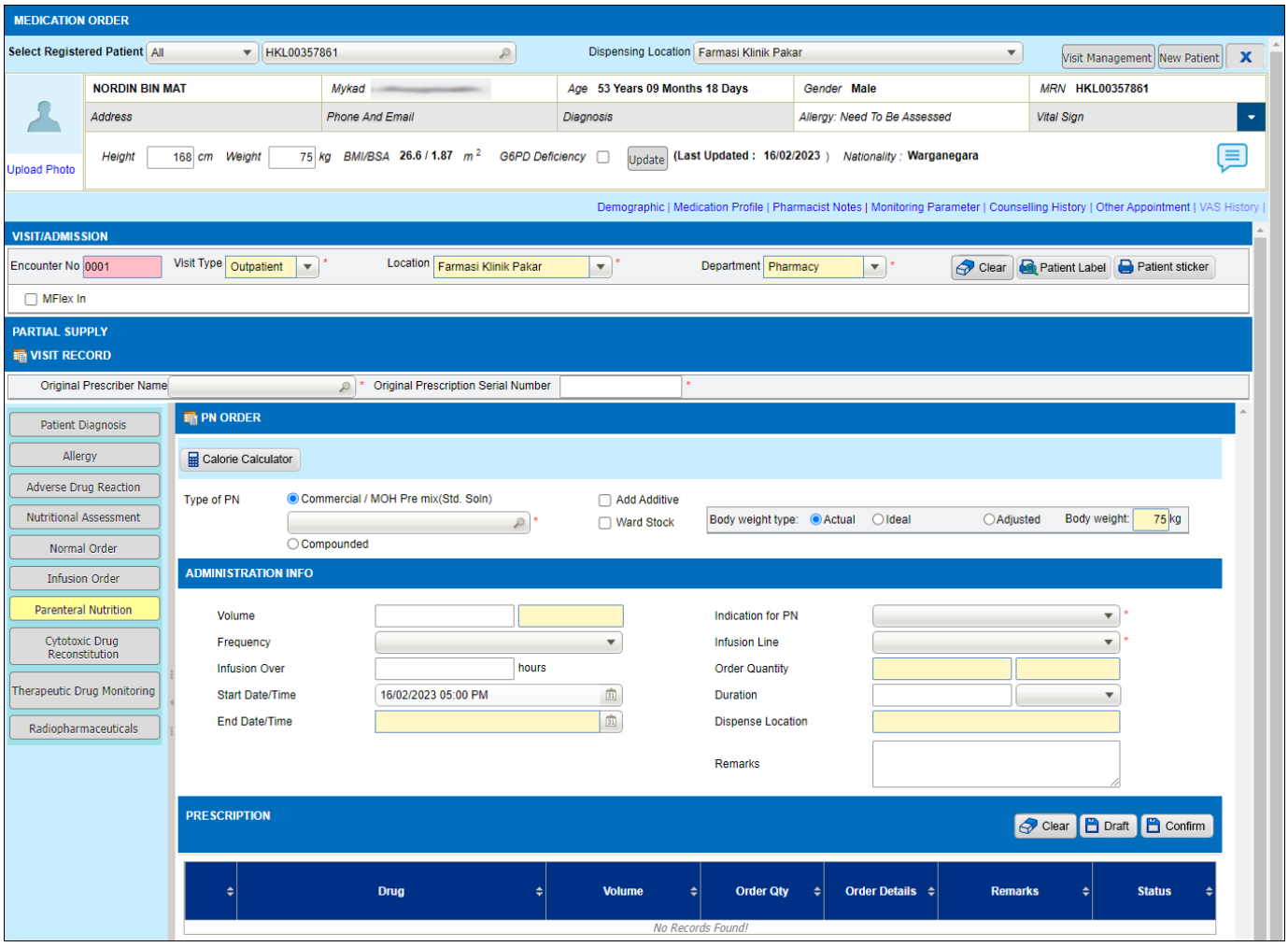


Figure 4.2-1 Calorie Calculator

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* Calorie Calculator *button to calculate patient calorie.*
- *'Calorie Calculator' screen will be displayed as per Figure 4.2-2.*

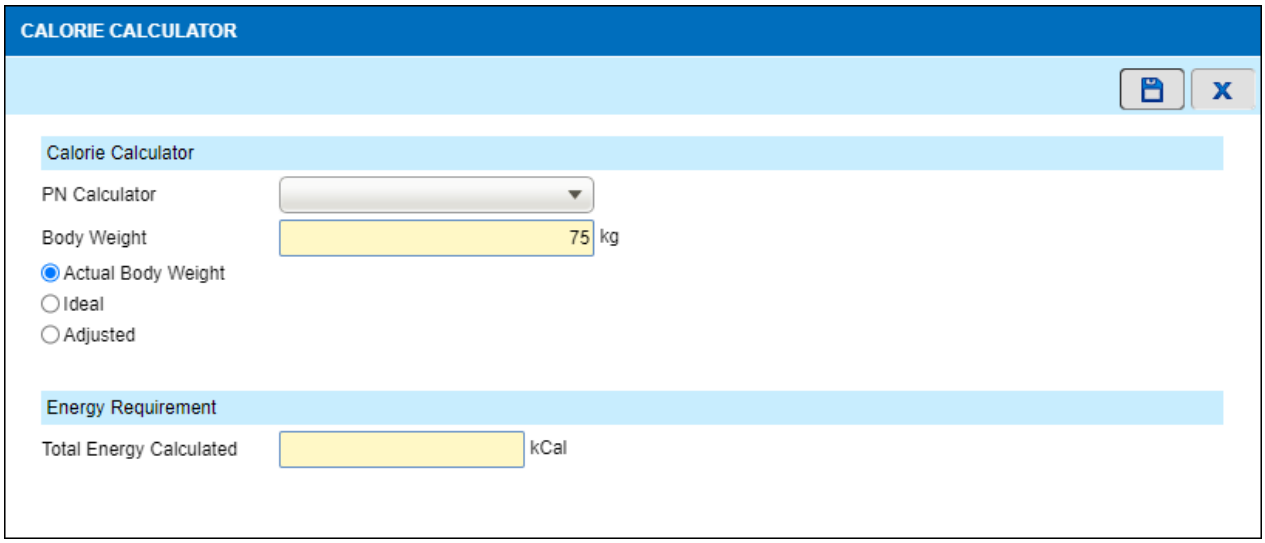


Figure 4.2-2 Calorie Calculator

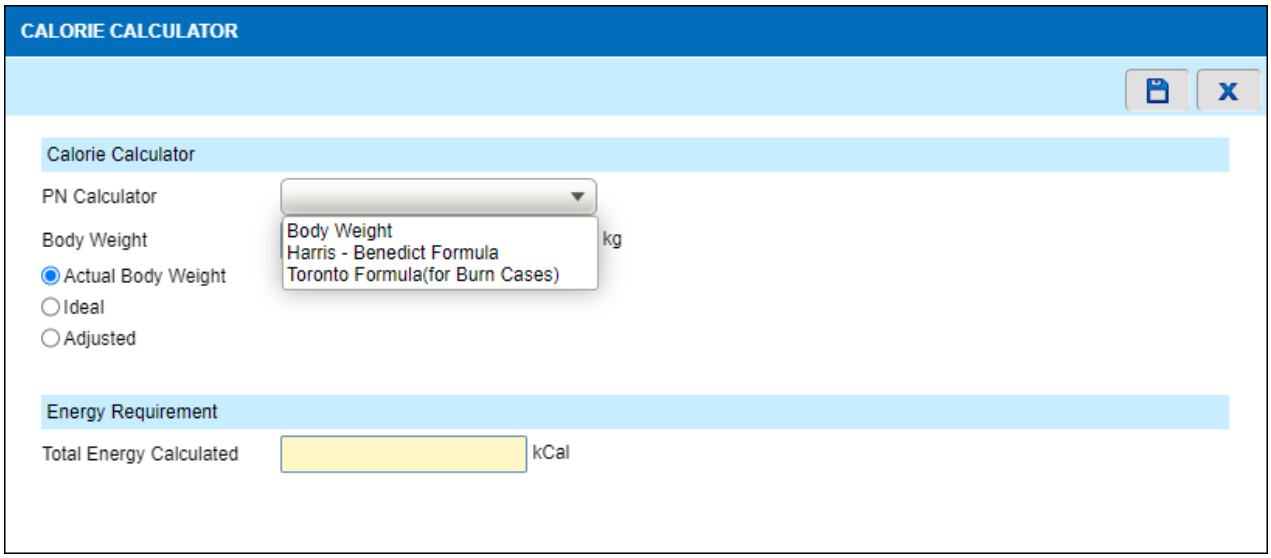
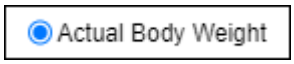


Figure 4.2-3 Calorie Calculator

Note

- *By default the 'Body Weight' radio button will auto select the*  *of the patient.*

- *User have to select either one of the following 'Body Weight' radio button:*
  - *Actual Body Weight*
  - *Ideal*
  - *Adjusted*

- *Body Weight value will automatically display based on the information from 'Patient Banner'.*

- *There are three types of PN Calculator:*
  - *Body Weight*
  - *Harris-Benedict Formula*
  - *Toronto Formula(for Burn Cases)*

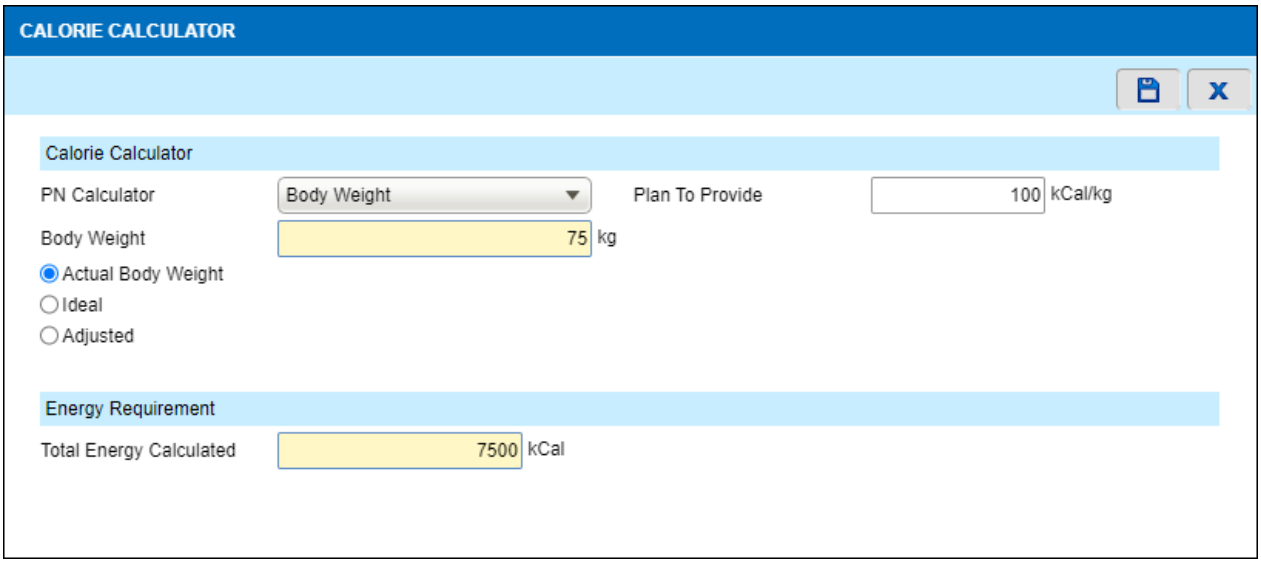


Figure 4.2-4 Calorie Calcutor

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.*

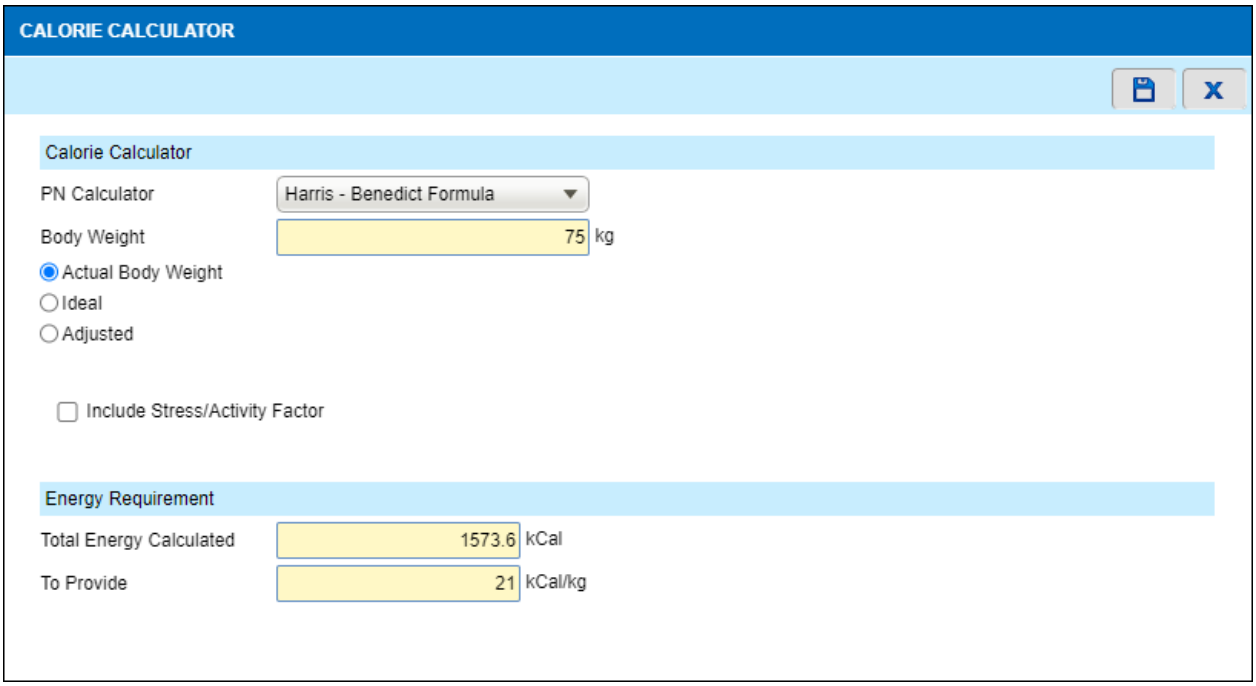


Figure 4.2-5 Calorie Calculator

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.*

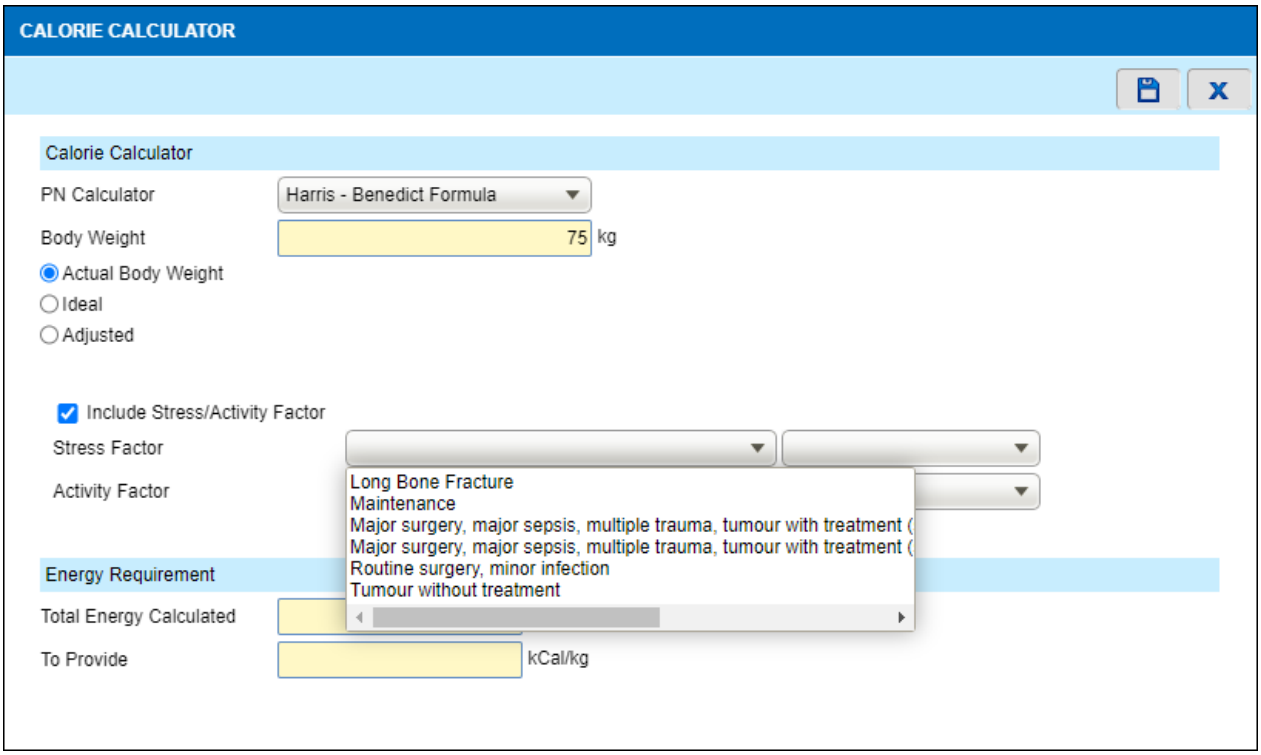


Figure 4.2-6 Calorie Calculator

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.*

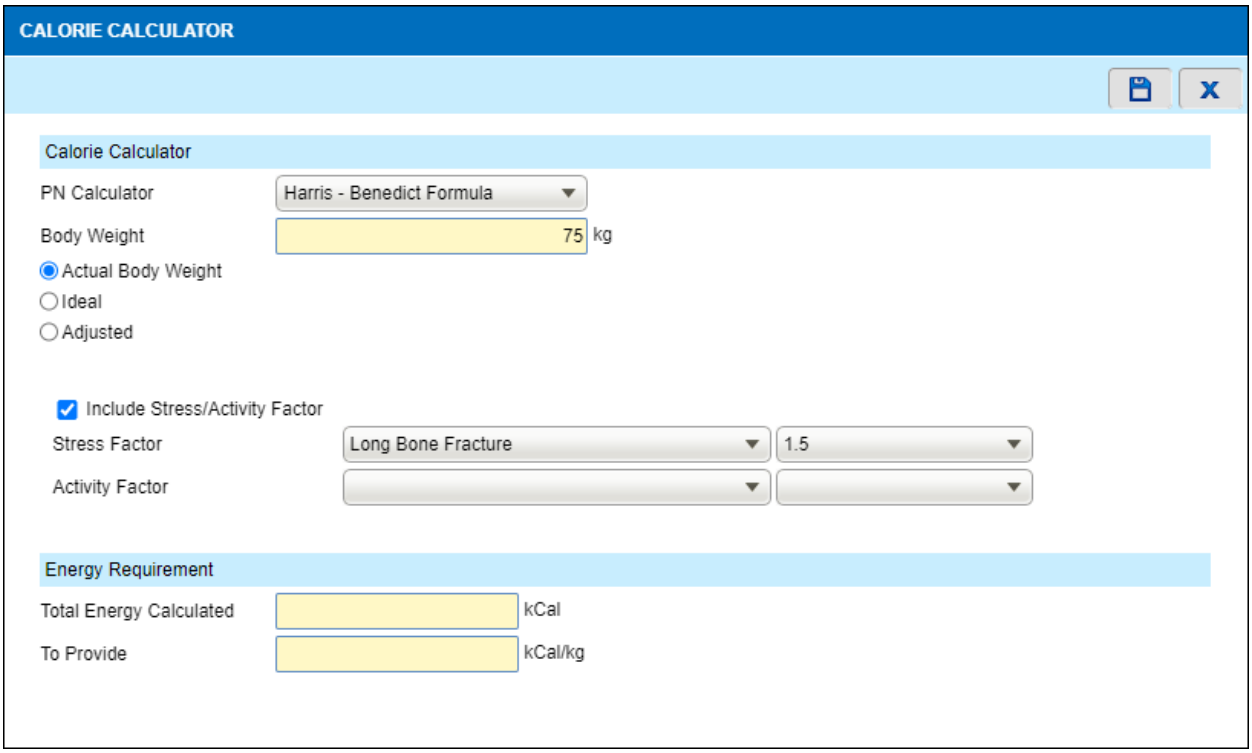


Figure 4.2-7 Calorie Calculator

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

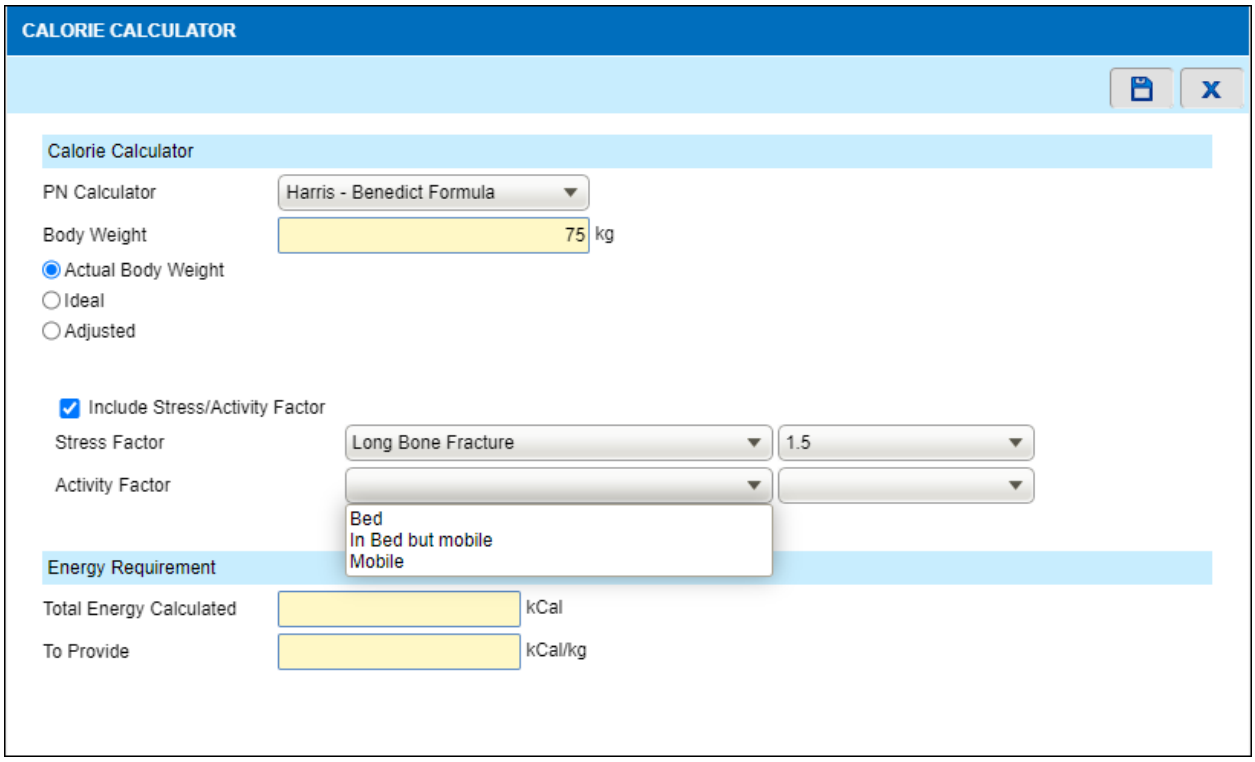


Figure 4.2-8 Calorie Calculator

Note

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

- *Bed*
- *In Bed but mobile*
- *Mobile*

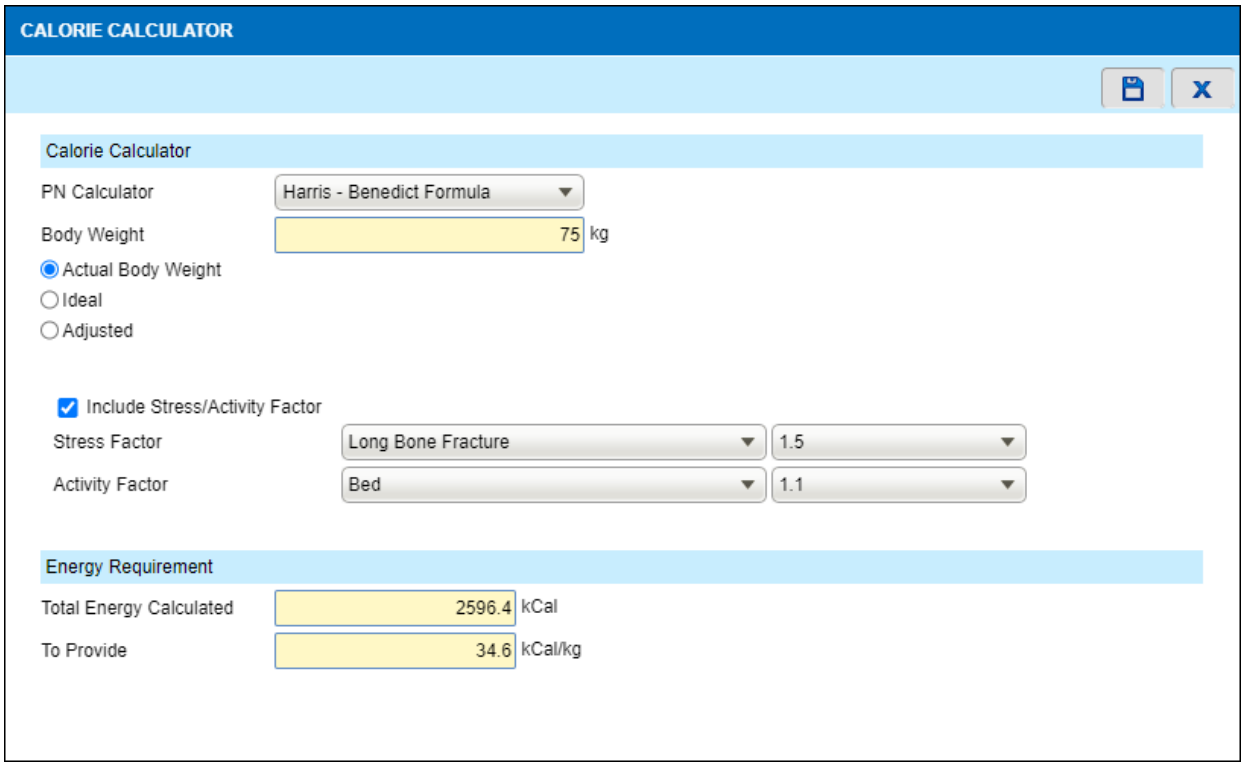


Figure 4.2-9 Calorie Calculator

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*

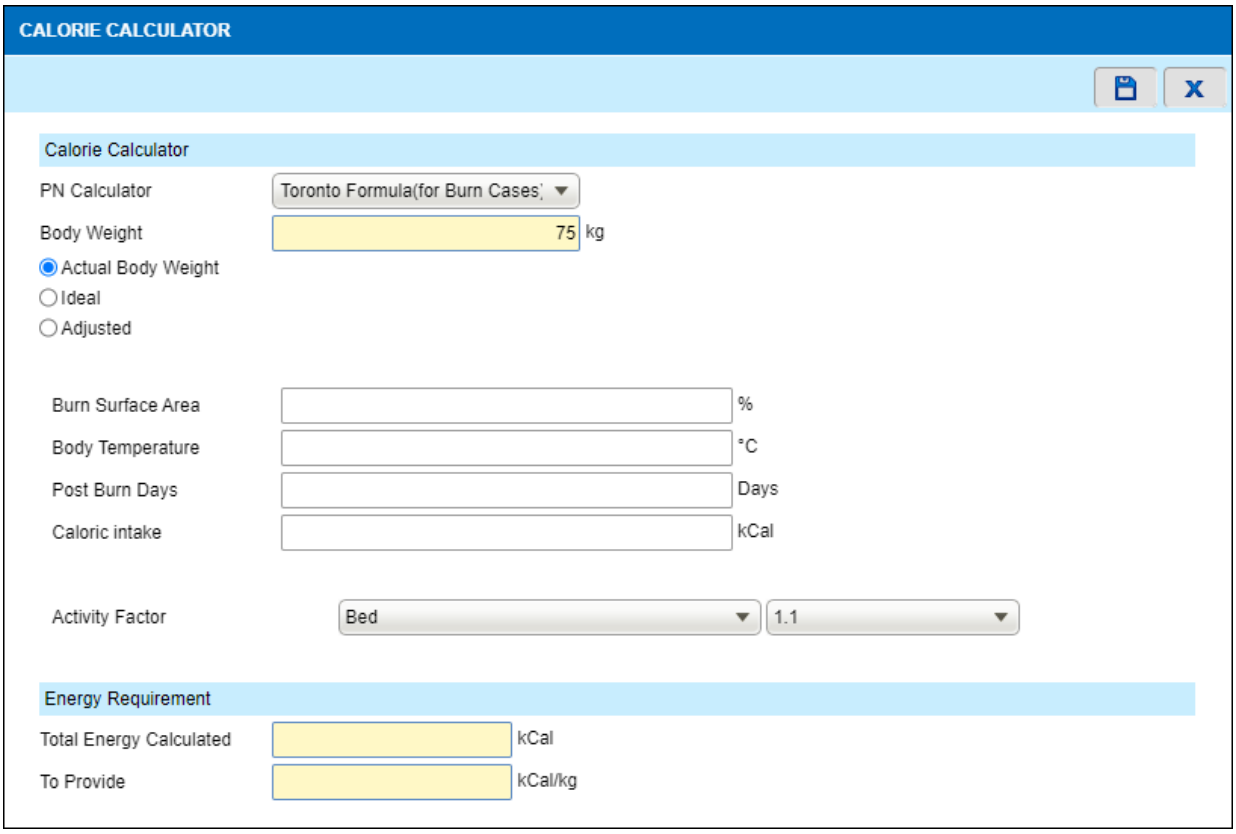


Figure 4.2-10 Calorie Calculator

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 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)

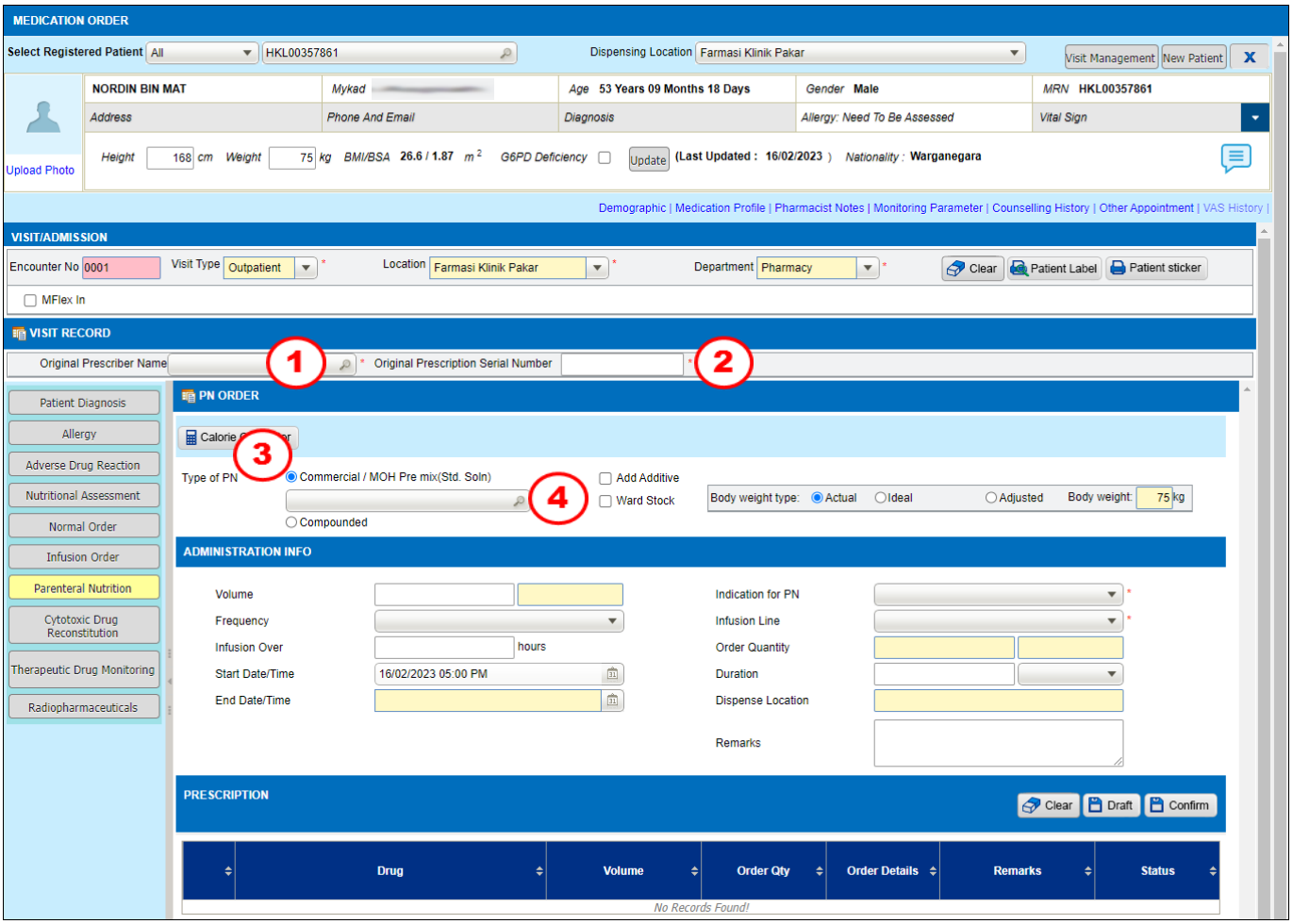


Figure 4.3-1 PN Order : Commercial / MOH Pre Mix (Std. Soln)

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

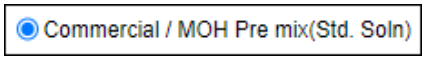
STEP 1

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

STEP 2

Enter the ***Original Prescription Serial Number***

STEP 3

Select on the 

radio button for 'Type of PN'

STEP 4

Click on the button to search for product

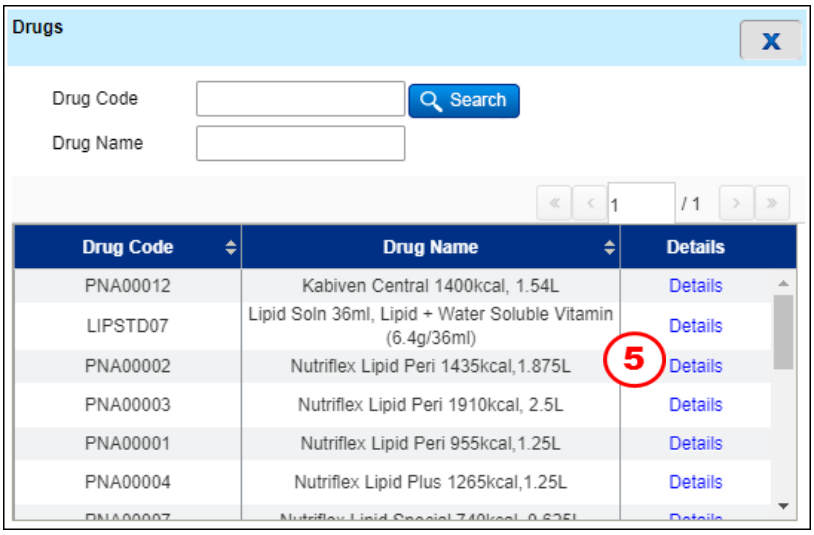


Figure 4.3-2 Drugs Listing

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* Search *button to search for the product.*

- *Click on the* Details *button to view product ingredients and content.*

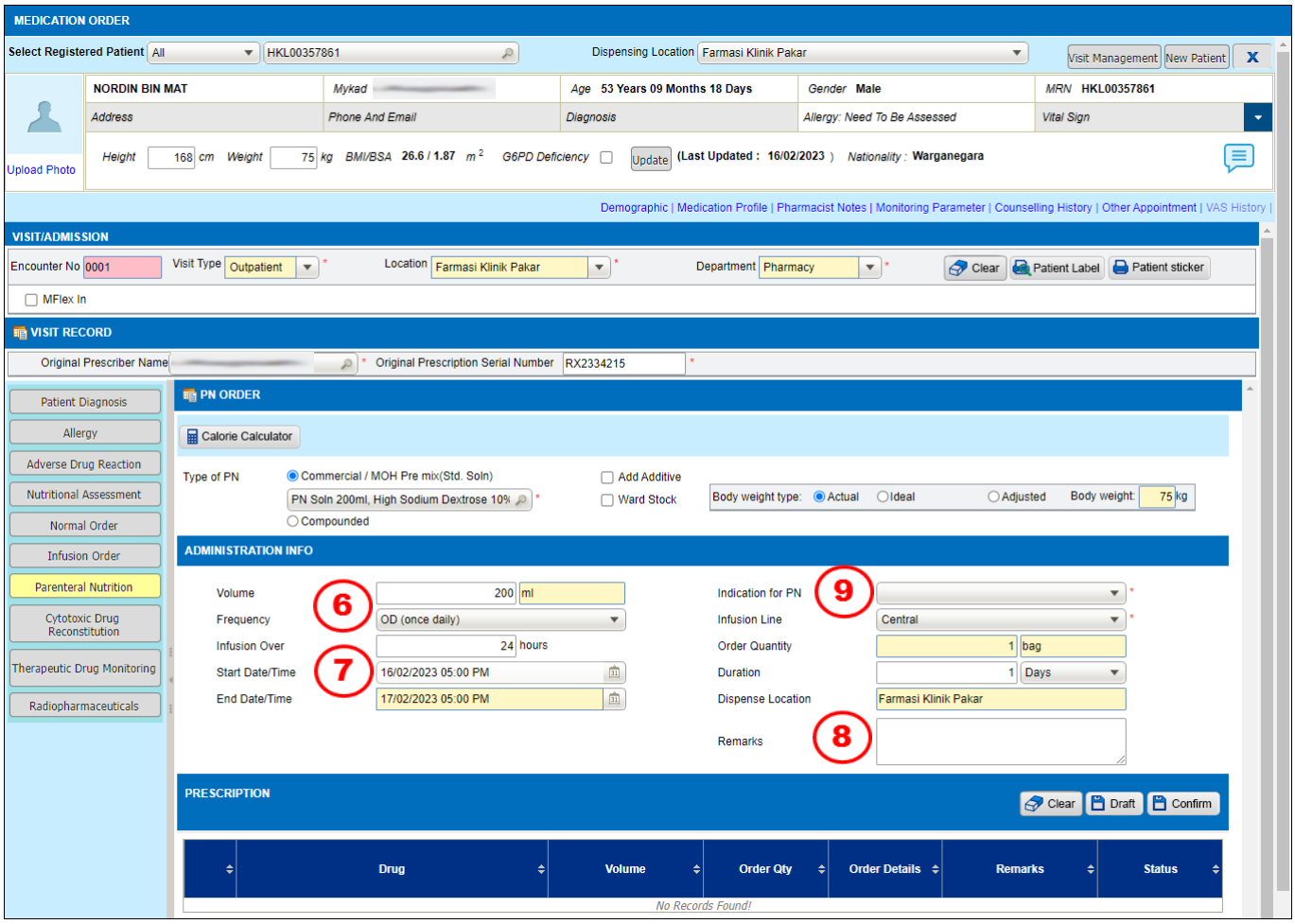


Figure 4.3-3 PN Order : Commercial / MOH Pre mix (Std. Soln)

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 mandotory requirements.*
- *This field still can be change by the user if applicable.*

STEP 7
Select ***Start Date/Time***

Note

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

STEP 8
Enter Remarks if applicable

STEP 9
Select Indication for PN from the dropdown menu

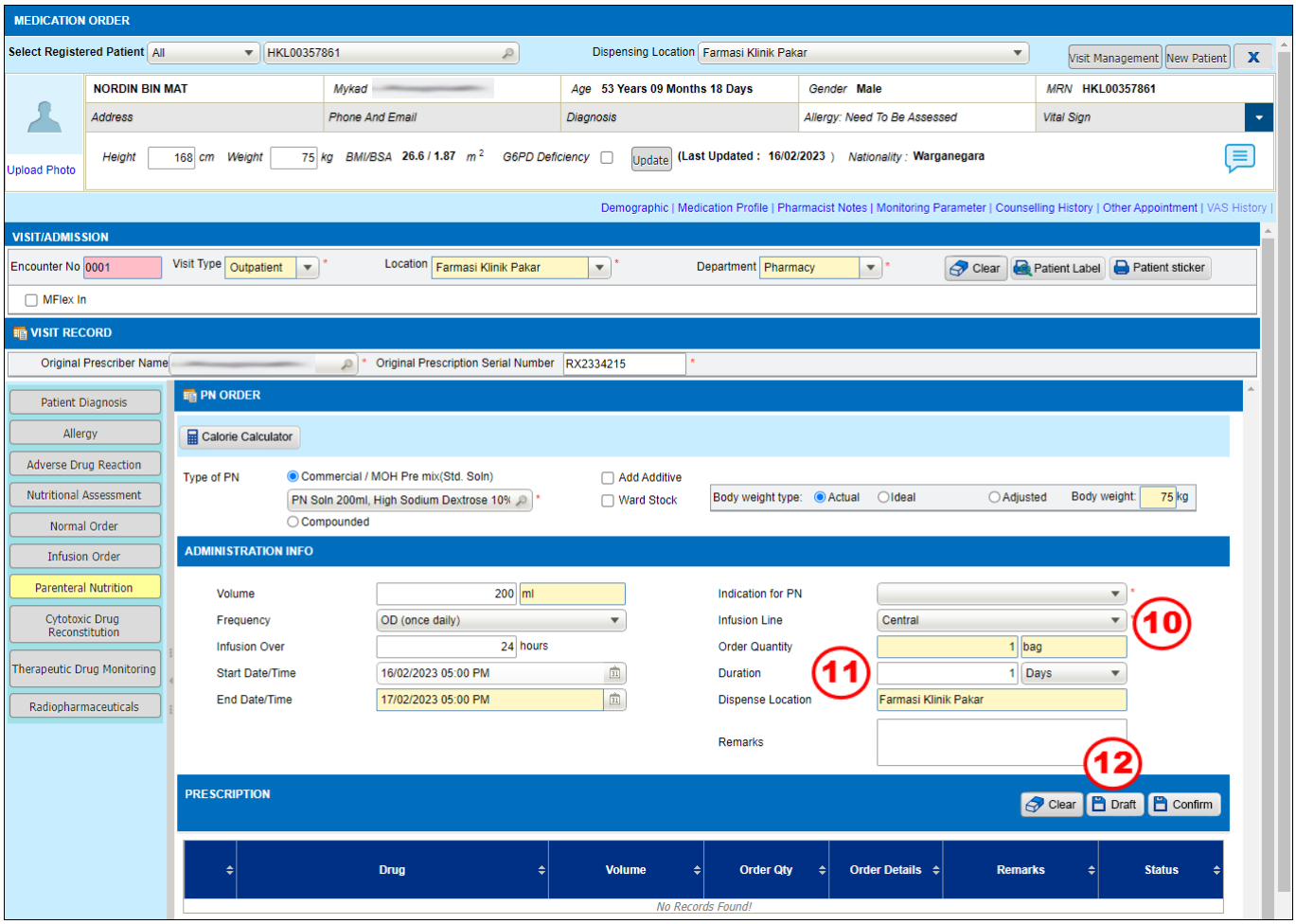


Figure 4.3-4 PN Order : Commercial / MOH Pre mix (Std. Soln)

STEP 10
Select ***Infusion Line*** from drop down menu

STEP 11
Enter/select ***Duration*** field

STEP 12

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

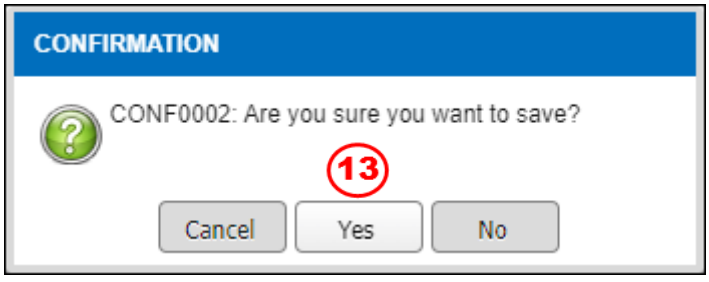


Figure 4.3-5 Information Alert Message

STEP 13

Click on the Yes button to save order record

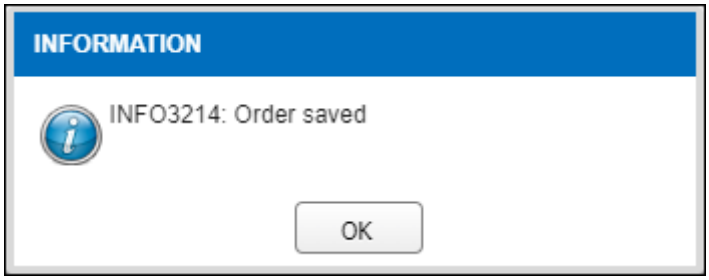


Figure 4.3-6 Information Alert Message

Note

Click on OK *button to proceed ordering*

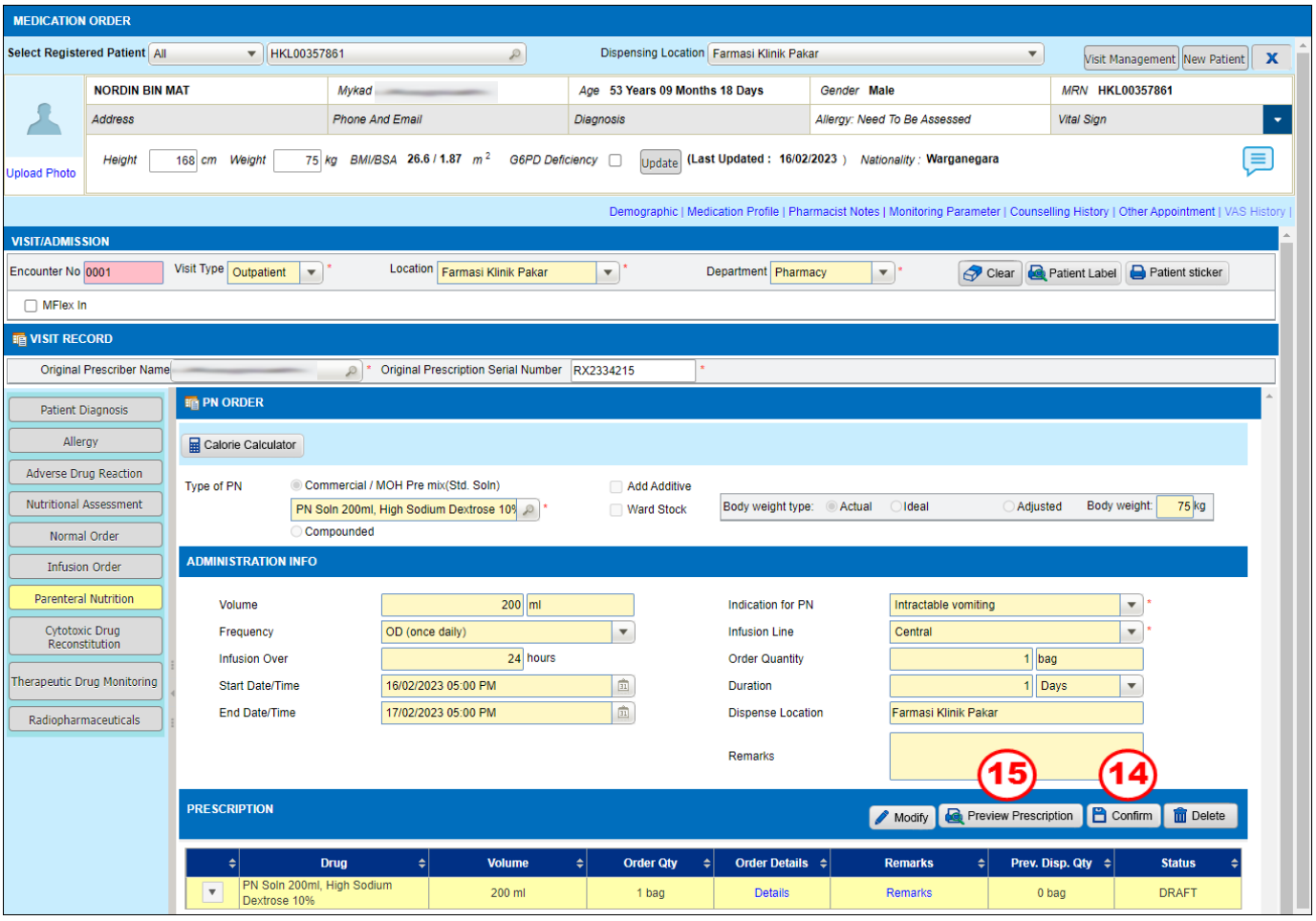


Figure 4.3-7 PN Order : Commercial / MOH Pre mix (Std. Soln)

STEP 14

Click on the Confirm button to confirm prescription

Note

- *User can directly click on* Confirm *button to directly confirm order without clicking on* Draft *button first.*
- *Click on the* Order Details / Details *link and 'PN Order Details' screen will be displayed as per Figure 4.3-7.*
- *Click on the* Remarks / Remarks *link and 'PN Remarks' screen will be displayed as per Figure 4.3-7.*

STEP 15

Click on the Preview Prescription button to preview and print PN prescription as per Figure 4.3-8

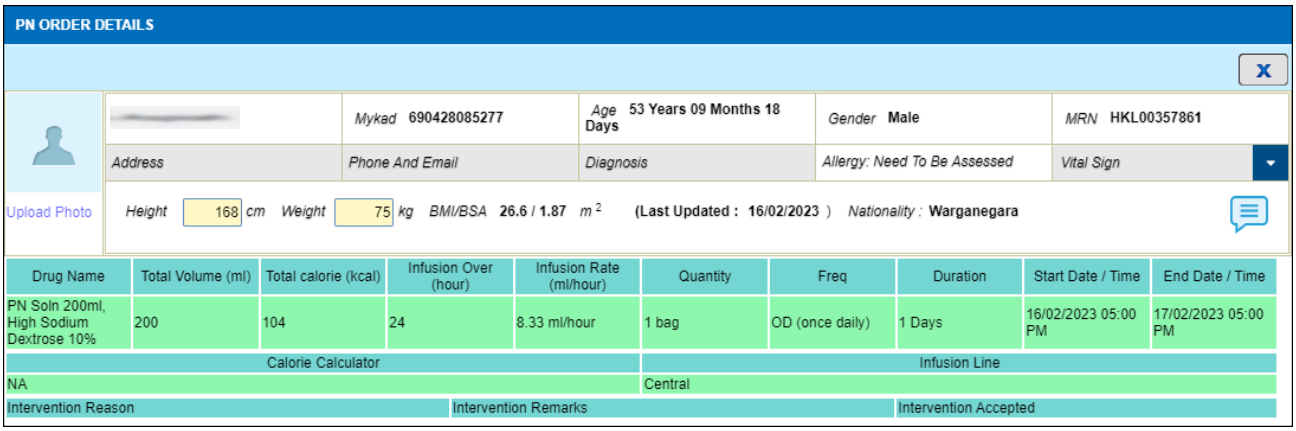


Figure 4.3-9 PN Order Details

Note

'PN Order Details' screen as per Figure 4.3-9.

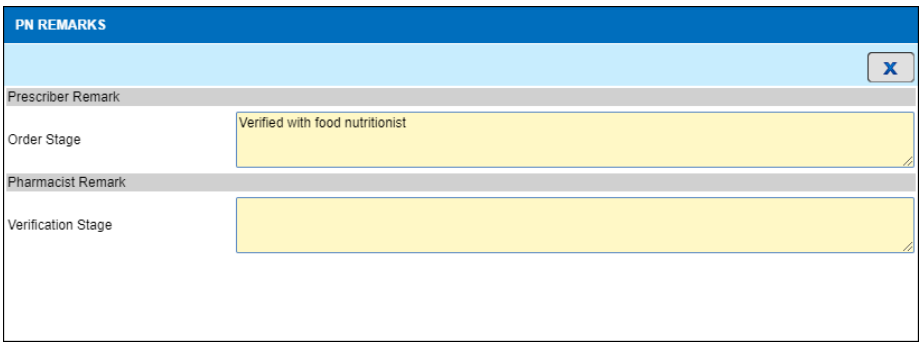
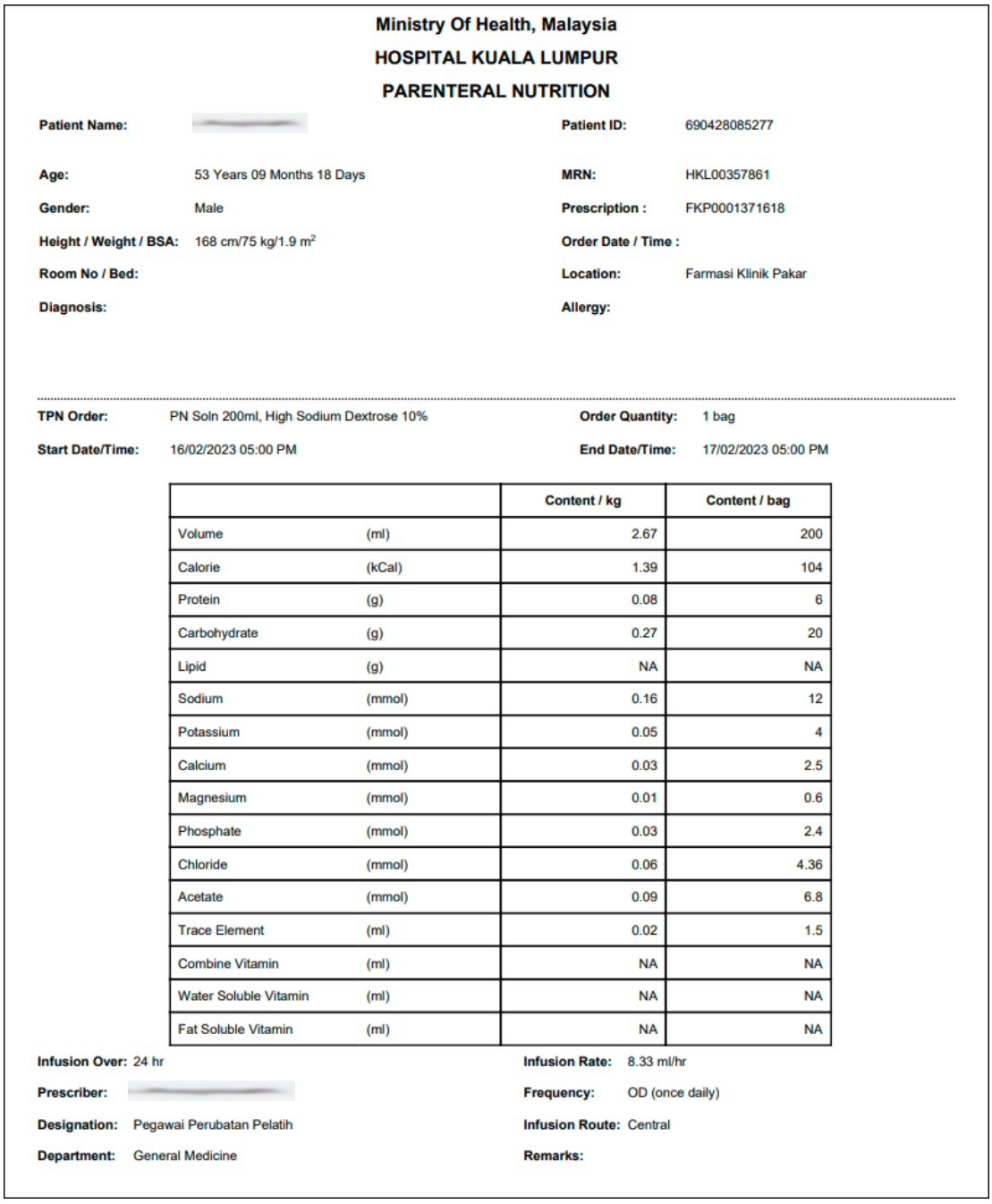


Figure 4.3-10 PN Remarks

Note

'PN Remarks' screen as per Figure 4.3-10.



Ministry Of Health, Malaysia

HOSPITAL KUALA LUMPUR

PARENTERAL NUTRITION

Patient Name:	[redacted]	**Patient ID:**	690428085277
Age:	53 Years 09 Months 18 Days	**MRN:**	HKL00357861
Gender:	Male	**Prescription :**	FKP0001371618
Height / Weight / BSA:	168 cm/75 kg/1.9 m^2	**Order Date / Time :**	
Room No / Bed:		**Location:**	Farmasi Klinik Pakar
Diagnosis:		**Allergy:**	

TPN Order:	PN Soln 200ml, High Sodium Dextrose 10%	**Order Quantity:**	1 bag
Start Date/Time:	16/02/2023 05:00 PM	**End Date/Time:**	17/02/2023 05:00 PM

		Content / kg	Content / bag
Volume	(ml)	2.67	200
Calorie	(kCal)	1.39	104
Protein	(g)	0.08	6
Carbohydrate	(g)	0.27	20
Lipid	(g)	NA	NA
Sodium	(mmol)	0.16	12
Potassium	(mmol)	0.05	4
Calcium	(mmol)	0.03	2.5
Magnesium	(mmol)	0.01	0.6
Phosphate	(mmol)	0.03	2.4
Chloride	(mmol)	0.06	4.36
Acetate	(mmol)	0.09	6.8
Trace Element	(ml)	0.02	1.5
Combine Vitamin	(ml)	NA	NA
Water Soluble Vitamin	(ml)	NA	NA
Fat Soluble Vitamin	(ml)	NA	NA

Infusion Over:	24 hr	**Infusion Rate:**	8.33 ml/hr
Prescriber:	[redacted]	**Frequency:**	OD (once daily)
Designation:	Pegawai Perubatan Pelatih	**Infusion Route:**	Central
Department:	General Medicine	**Remarks:**	

Figure 4.3-11 Sample of PN Prescription

Note

Sample of PN prescription is as shown in Figure 4.3-11.

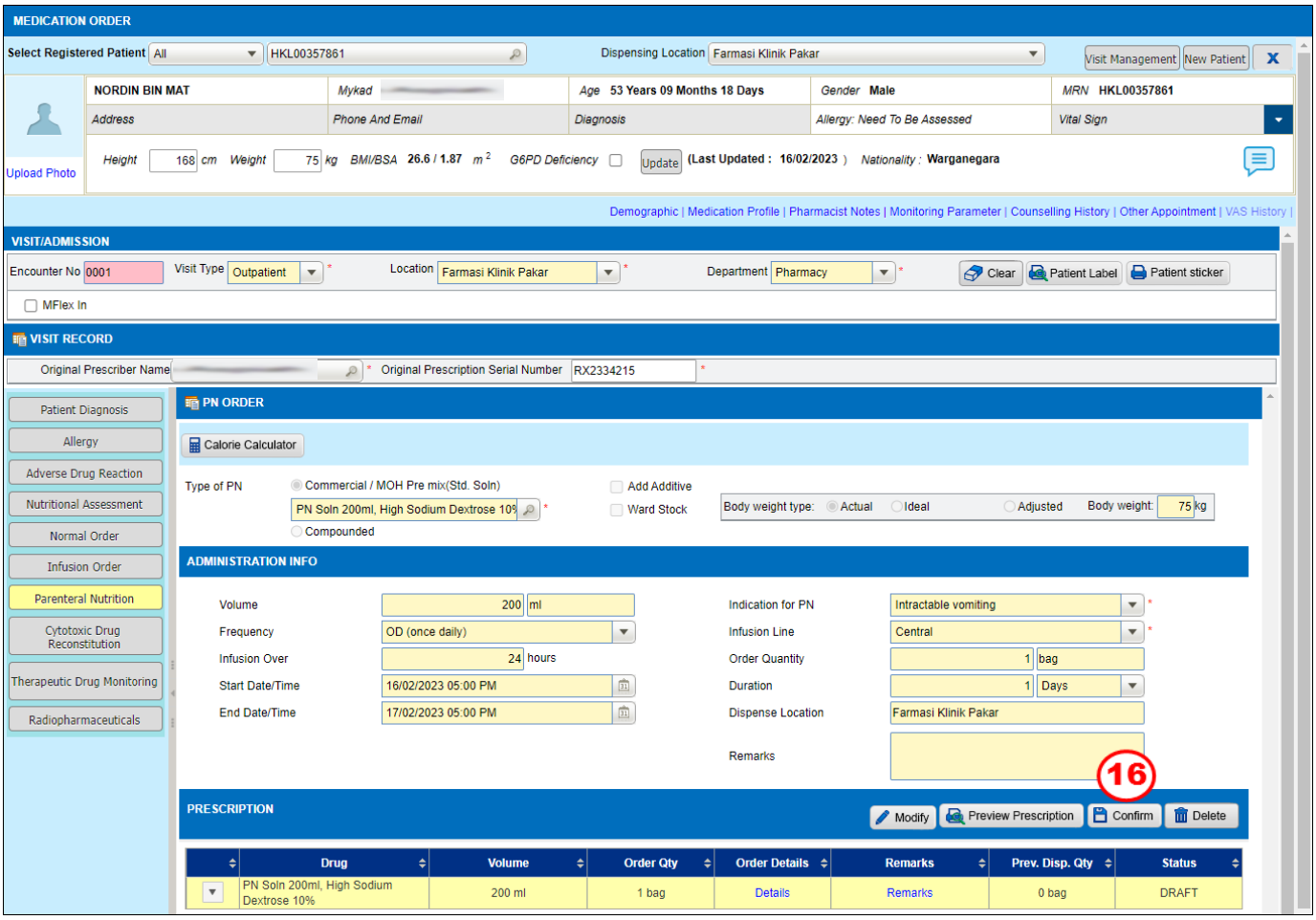


Figure 4.3-12 PN Order : Commercial / MOH Pre mix (Std. Soln)

STEP 16

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

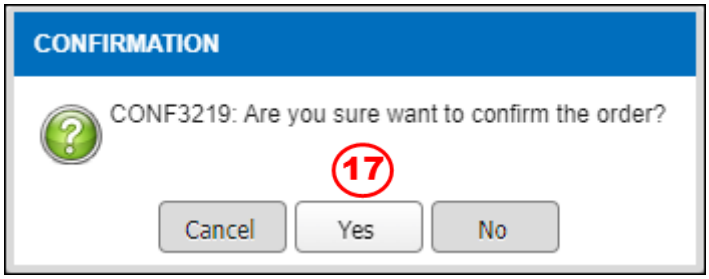


Figure 4.3-13 Information Alert Message

STEP 17

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

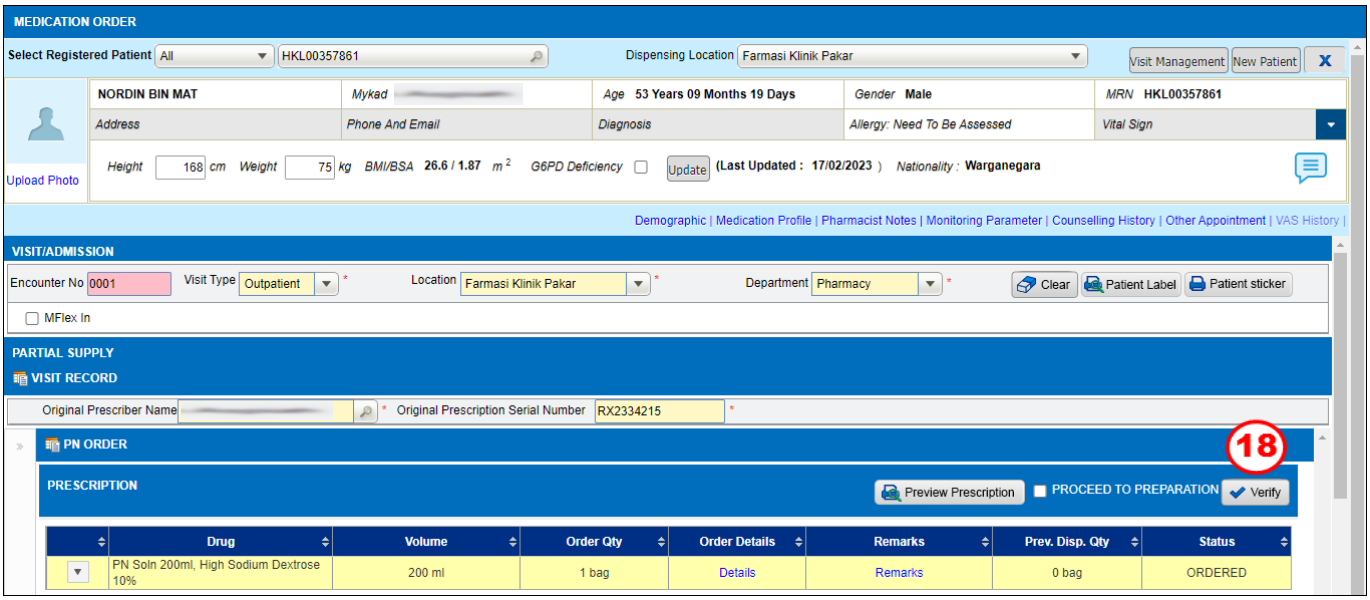


Figure 4.3-14 PN Order : Verification

STEP 18

Click on the Verify button to verify the order and alert message will be displayed as per Figure 4.3-15

Note

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

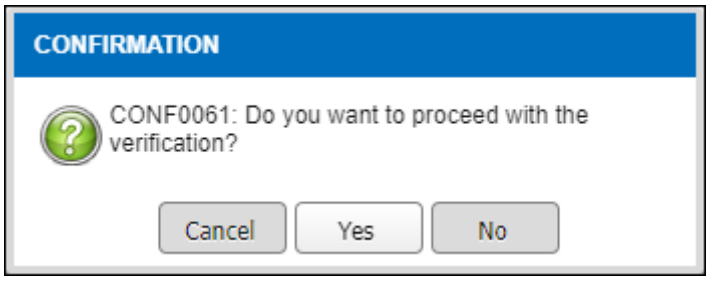


Figure 4.3-15 Confirmation Alert Message

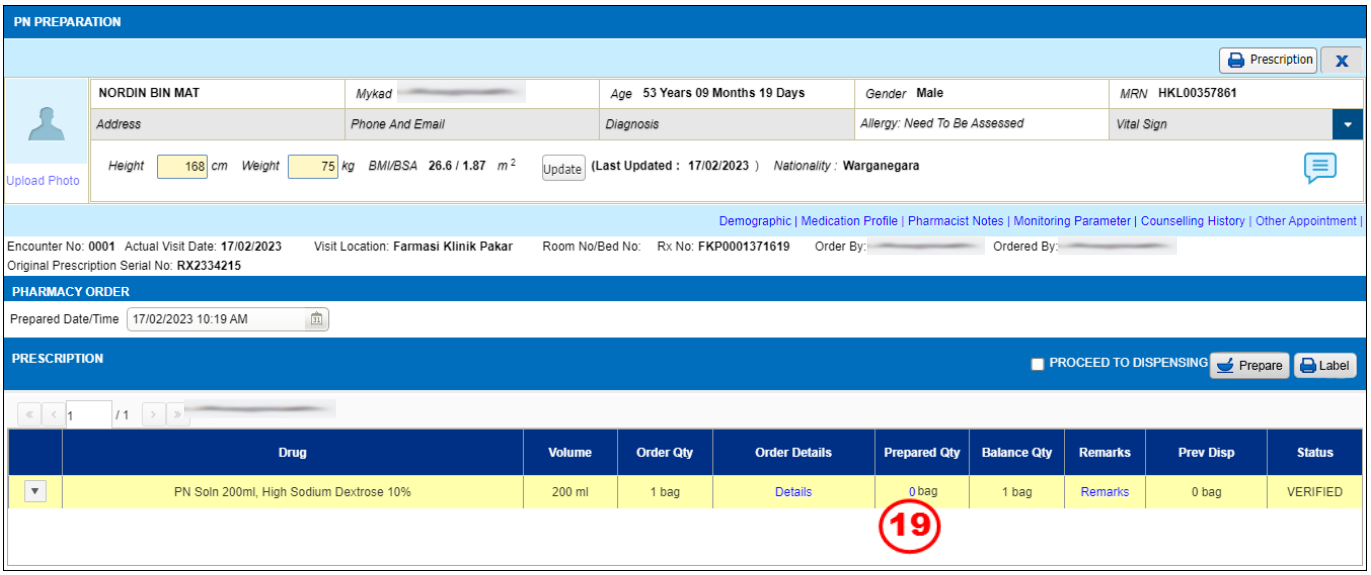


Figure 4.3-16 PN Preparation

STEP 19

Click on the 0 bag link to allocate quantity and 'Item Batch Details' screen will be displayed as per Figure 4.3-17

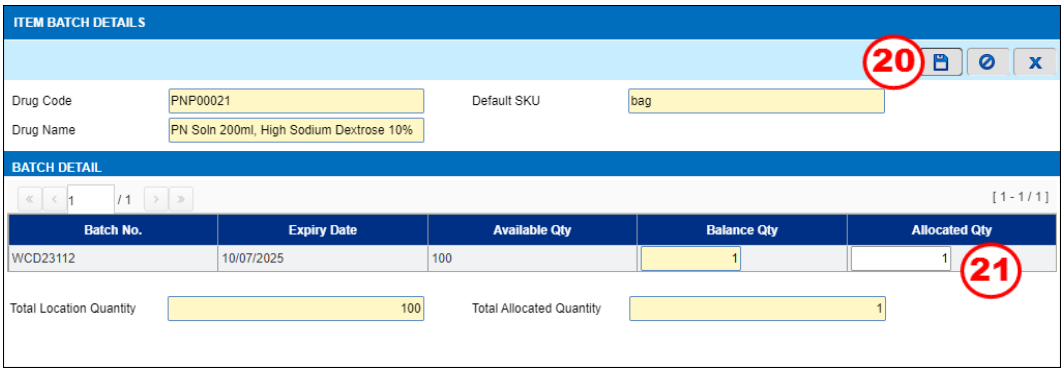


Figure 4.3-17 Item Batch Details

STEP 20

Enter ***Allocated Qty***

STEP 21

Click on the button to save record

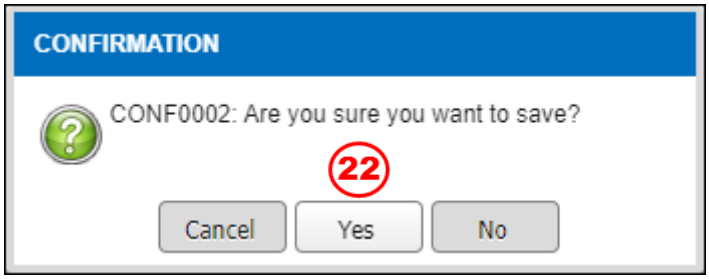


Figure 4.3-18 Confirmation Alert Message

STEP 22

Click on the Yes button to confirm save

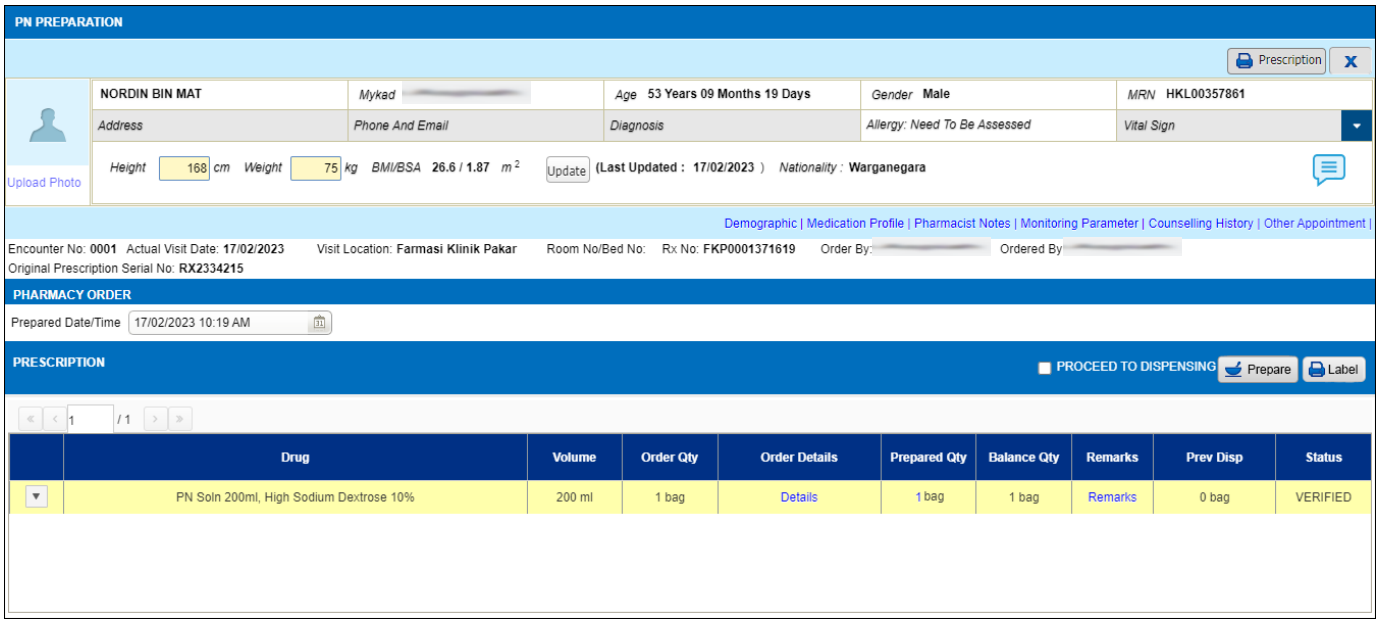


Figure 4.3-19 PN Preparation

Note
Edit Label

Click on the Label *button to edit label and 'PN Edit Label' window will display as per Figure 4.3-20.*

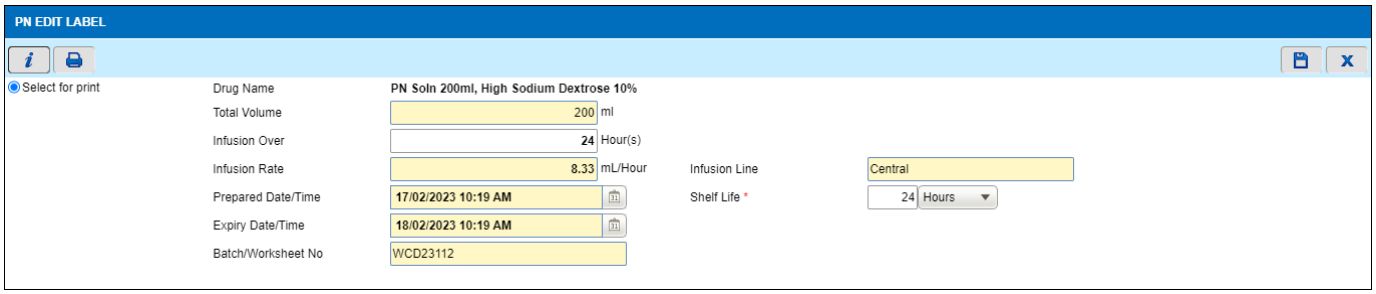


Figure 4.3-20 PN Edit Label

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 4.3-21.*

HOSPITAL KUALA LUMPUR		
PN Soln 200ml, High Sodium Dextrose 10%		
NAME : NORDIN BIN MAT		
ID NO : [redacted]		
AGE : 53 Years 09 Months 19 Days		
MRN : HKL00357861	WARD/BED NO: Farmasi Klinik Pakar	
Total	200 ml/bag	
Content	***/ kg***	***/ bag***
Protein (g)	0.08	6
Dextrose (g)	0.27	20
Lipid (g)	0	0
Sodium (mmol)	0.16	12
Potassium (mmol)	0.05	4
Calcium (mmol)	0.03	2.5
Magnesium (mmol)	0.01	0.6
Phosphate (mmol)	0.03	2.4
Chloride (mmol)	0.06	4.36
Acetate (mmol)	0.09	6.8
Trace Element (ml)	0.02	1.5
Vitamins (ml)	0	0
Calories (kcal)	1.39	104
Osmolarity (mOsm/l)	0	0
Admin Date/Time :		
Infusion Rate	8.33 mL/Hrs	
Infusion Over	24 Hrs	
Batch No : WCD23112	Expiry Date : 18/02/2023	Price : RM
Do not use if any visible solid particles, growth or precipitation appears.		
Store in refrigerator (2-8 °C). Protect from light (Once open use within 48 hours) Ensure PN Solution is at room temperature before infusion.		
TO BE INFUSED : CENTRAL LINE		

Figure 4.3-21 Sample PN Label

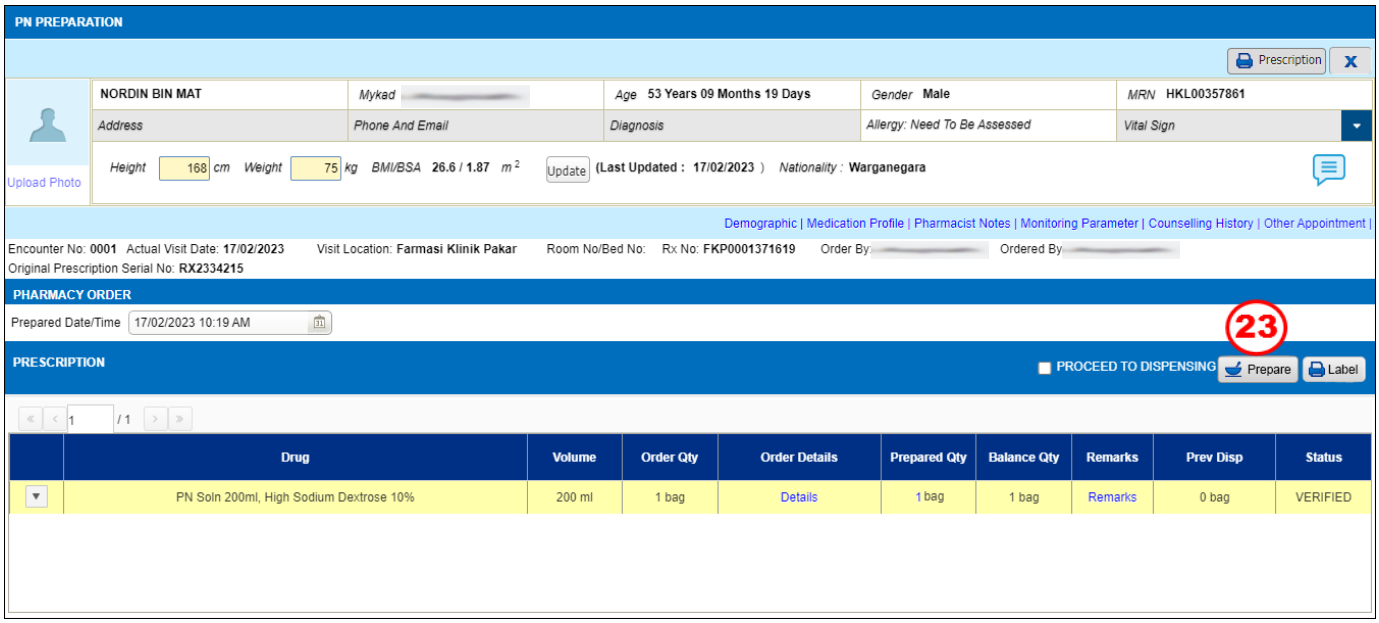


Figure 4.3-22 PN Preparation

STEP 23

Click on the Prepare button to prepare PN order

Note

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

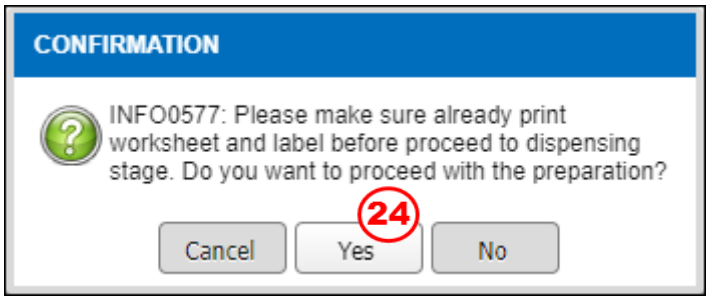


Figure 4.3-23 Confirmation Alert Message

STEP 24

Click on the Yes button to confirm prepare order

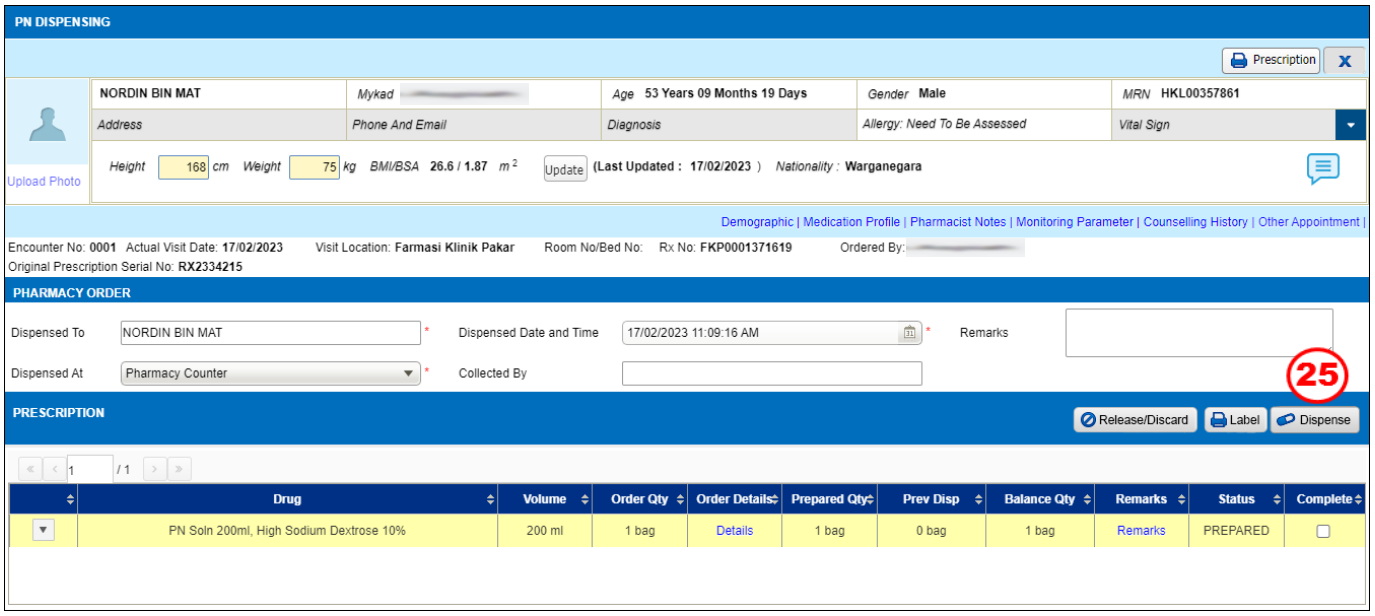


Figure 4.3-24 PN Dispensing

STEP 25

Click on the Dispense button and alert message will be displayed as per Figure 4.3-25

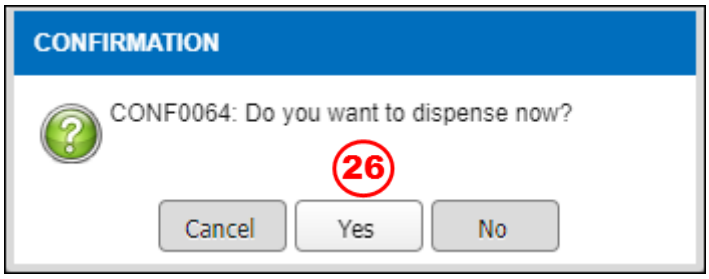


Figure 4.3-24 Confirmation Alert Message

STEP 26

Click on the Yes button to confirm prepare order

Note

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

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

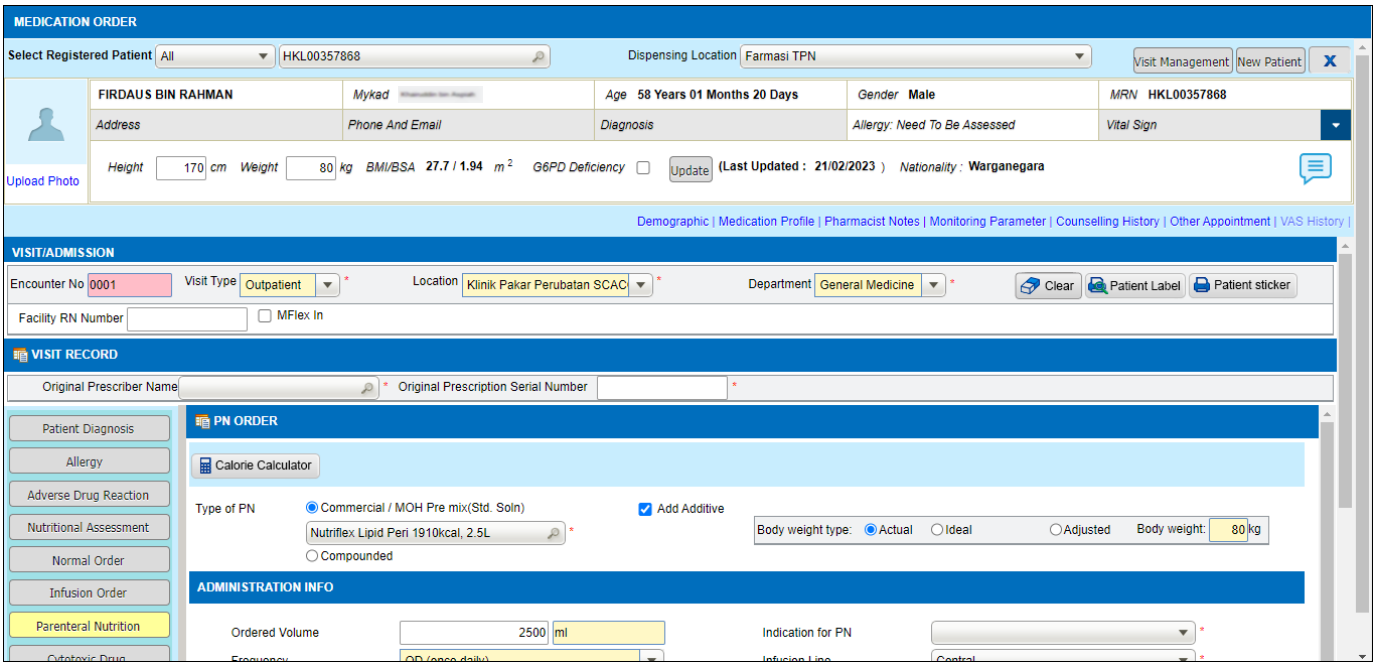


Figure 4.4-1 Medication Order

'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)*

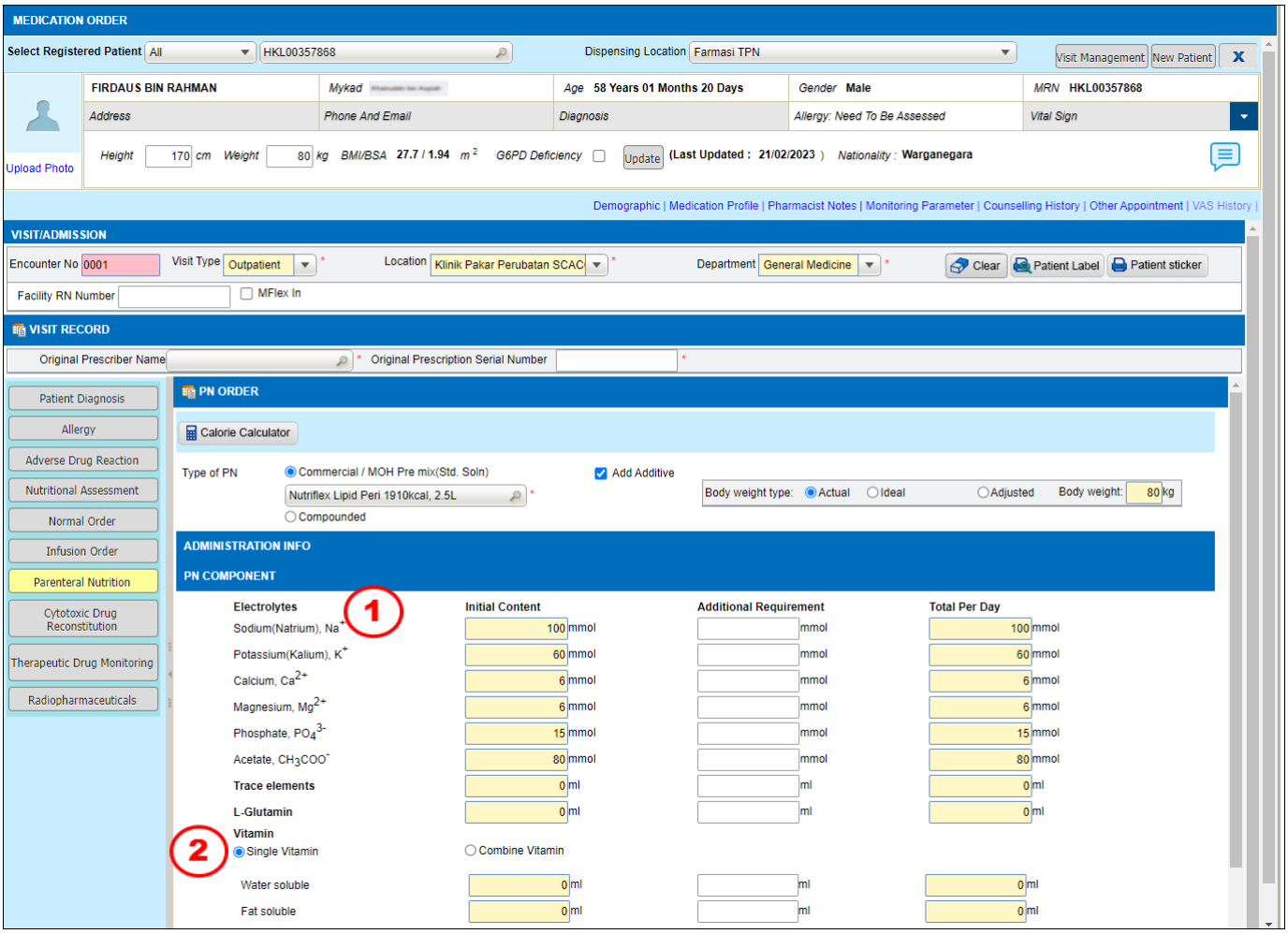
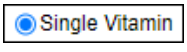


Figure 4.4-2 Single Vitamin

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  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.***

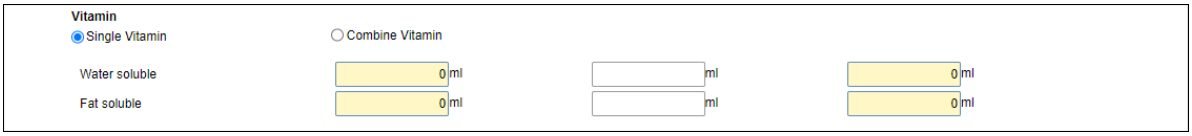


Figure 4.4-3 Single Vitamin

Or

Select Combine Vitamin radio button

Note

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

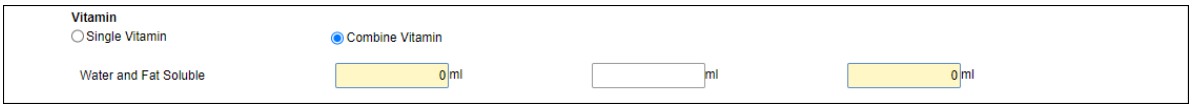


Figure 4.4-4 Combine Vitamin

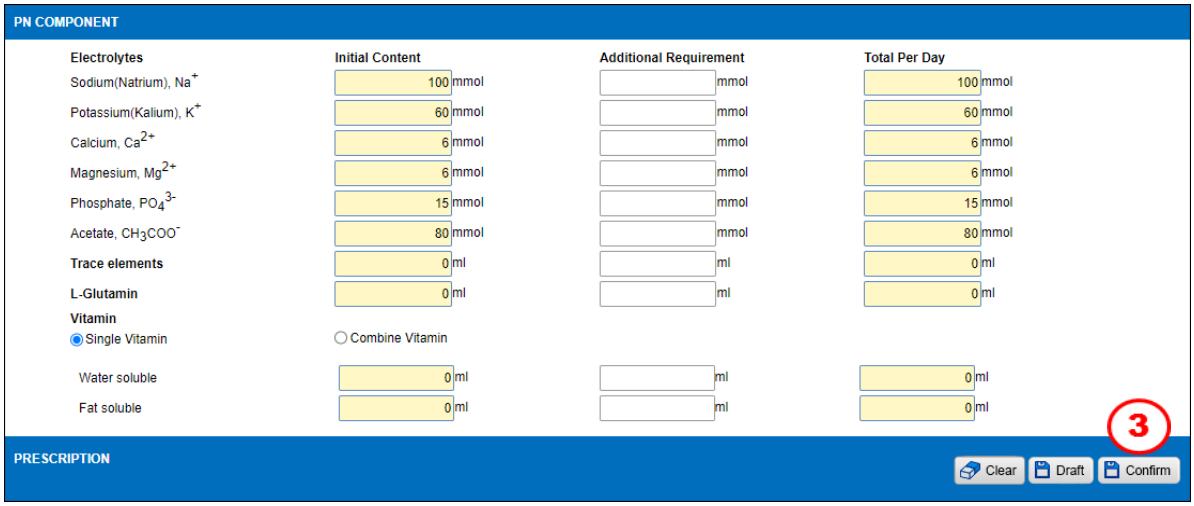


Figure 4.4-5 Medication Order

STEP 3

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

Note

- *Click on the* Draft *button to save prescription as a draft and the alert message as below will appear.*
- *Click on the* Clear *button as per Figure 4.4-5 to clear data in order details.*

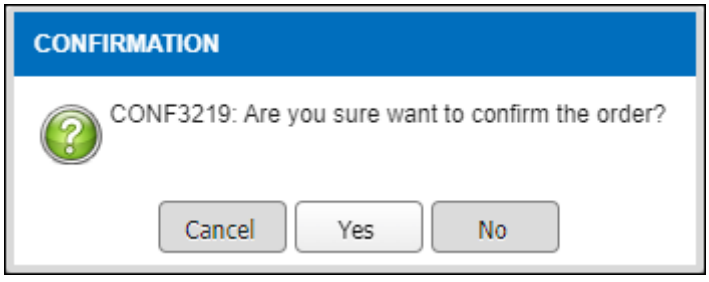


Figure 4.4-6 Confirmation Alert Message

- *Click on* Yes *button to proceed the order and verify PN Order screen will be displayed as Figure 4.4-7*

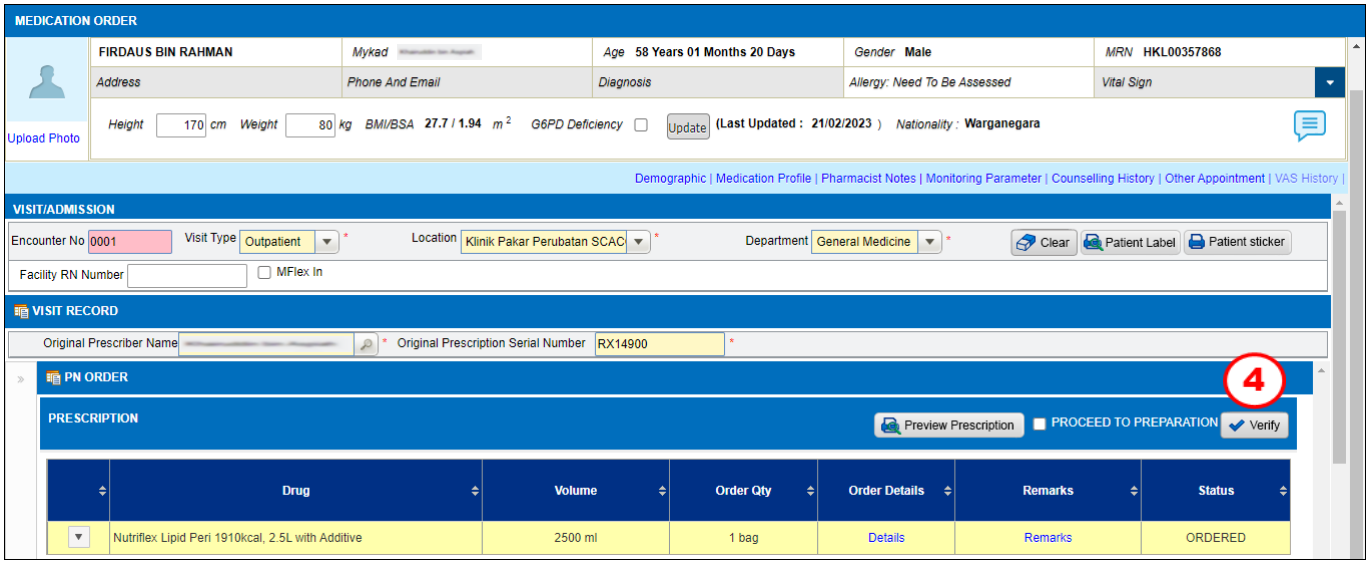


Figure 4.4-7 PN Order : Verify

STEP 4

Click on the Verify button to verify the order and alert message will be displayed as per Figure 4.4-8

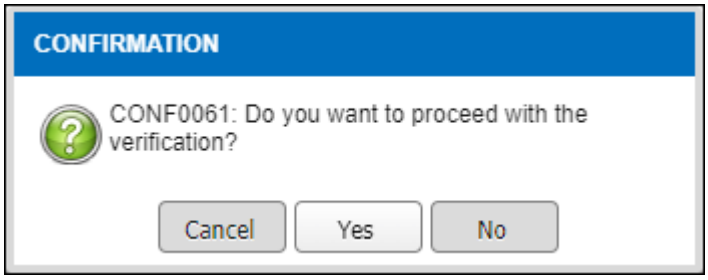


Figure 4.4-8 Confirmation Alert Message

Note

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

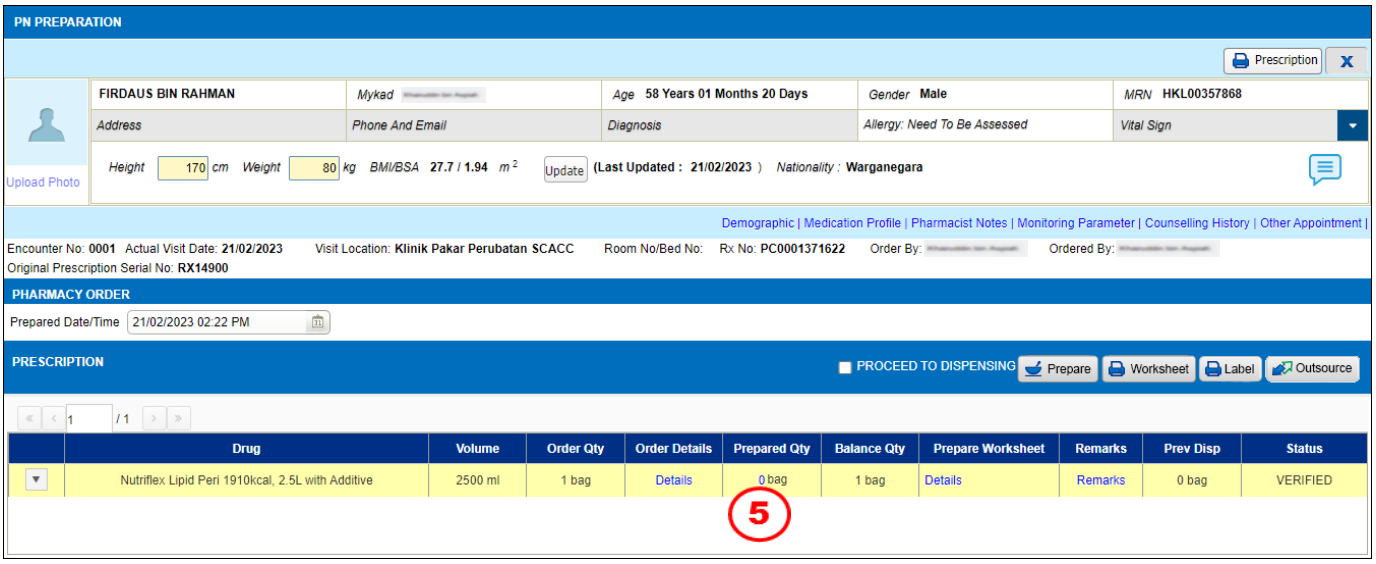


Figure 4.4-9 PN Preparation

STEP 5

Click on the 0 bag link to allocate quantity and 'Item Batch Details' screen will be displayed as per Figure 4.4-10

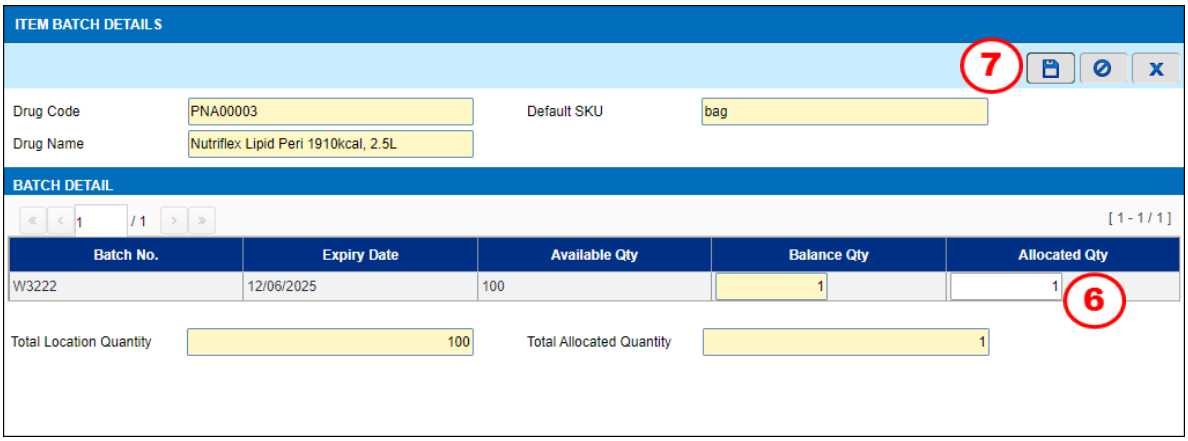


Figure 4.4-10 Item Batch Details

STEP 6

Enter ***Allocated Qty***

STEP 7

Click on the button to save record

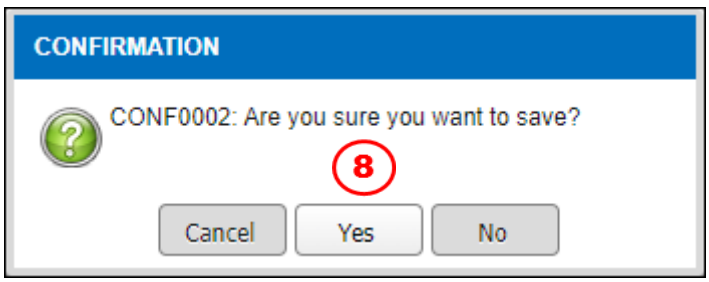


Figure 4.4-11 Confirmation Alert Message

STEP 8

Click on the Yes button to confirm save

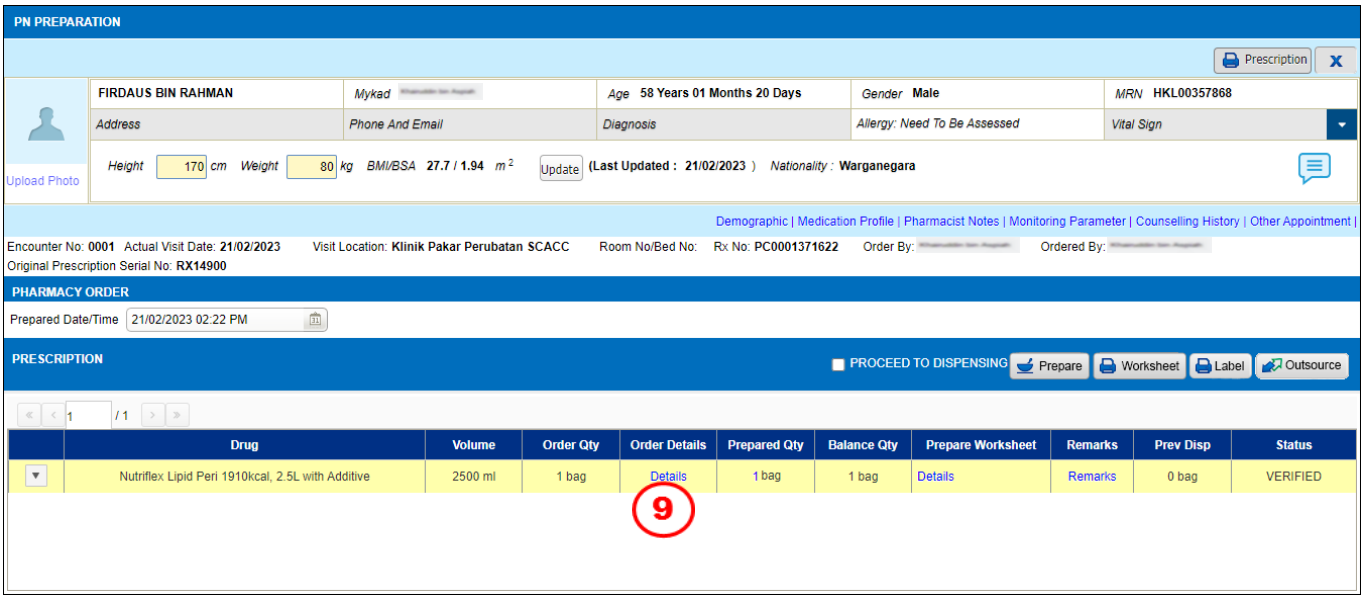


Figure 4.4-12 PN Preparation

STEP 9

Click on the ***Prepare Worksheet*** Details button to prepare worksheet as per Figure 4.4-13

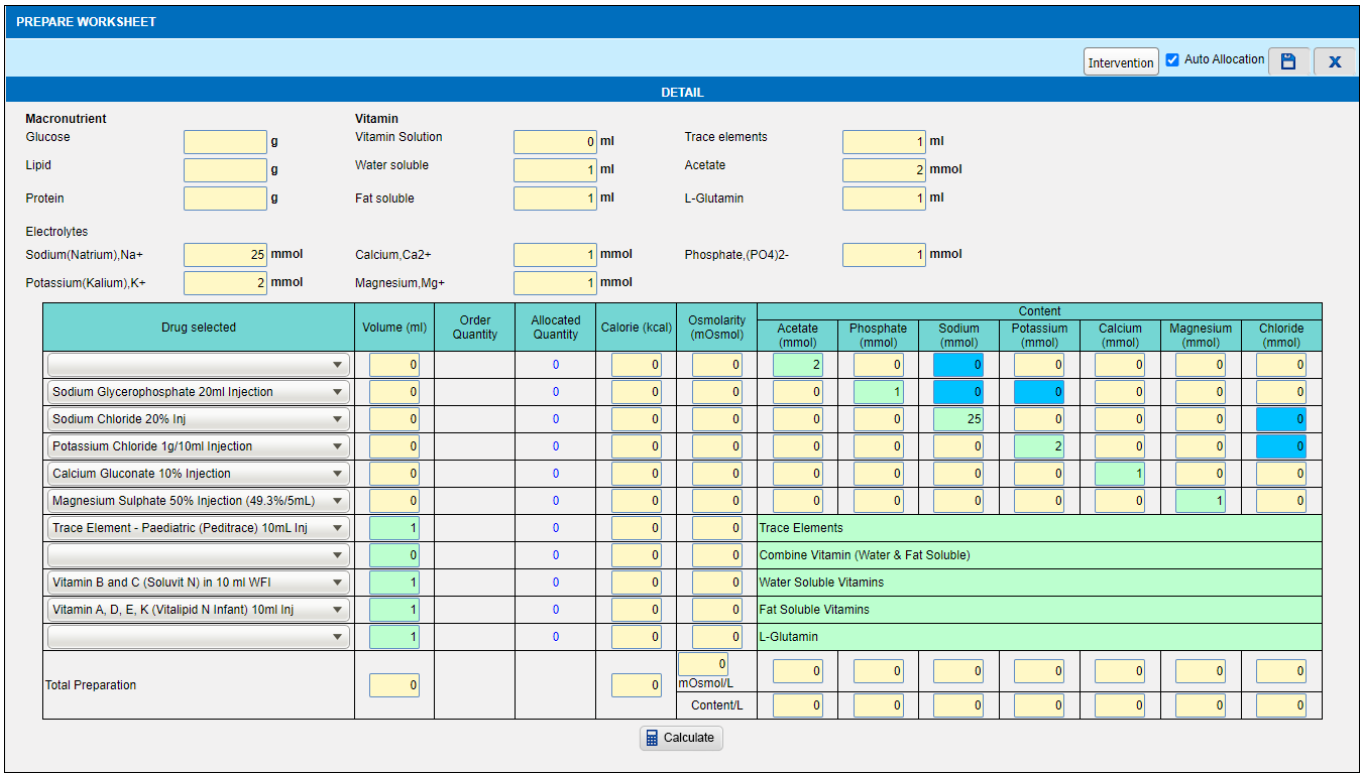


Figure 4.4-13 Prepare Worksheet

Note

- *Click and Select the drug from drop down and **Macronutrient**, **Vitamin** field and **Electrolytes** field display the quantity to be added into the bag.*
- *Click on the* Calculate *button to calculate PN content value.*
- ***Volume (ml), Order Quantity, Calorie (kcal), Osmolrity(mOsmol), Content** and **Total Preparation** will be automatically calculated and displayed by system as per Figure 4.4-14.*
- ***Calorie(kcal)** will be added together with the additives amount*

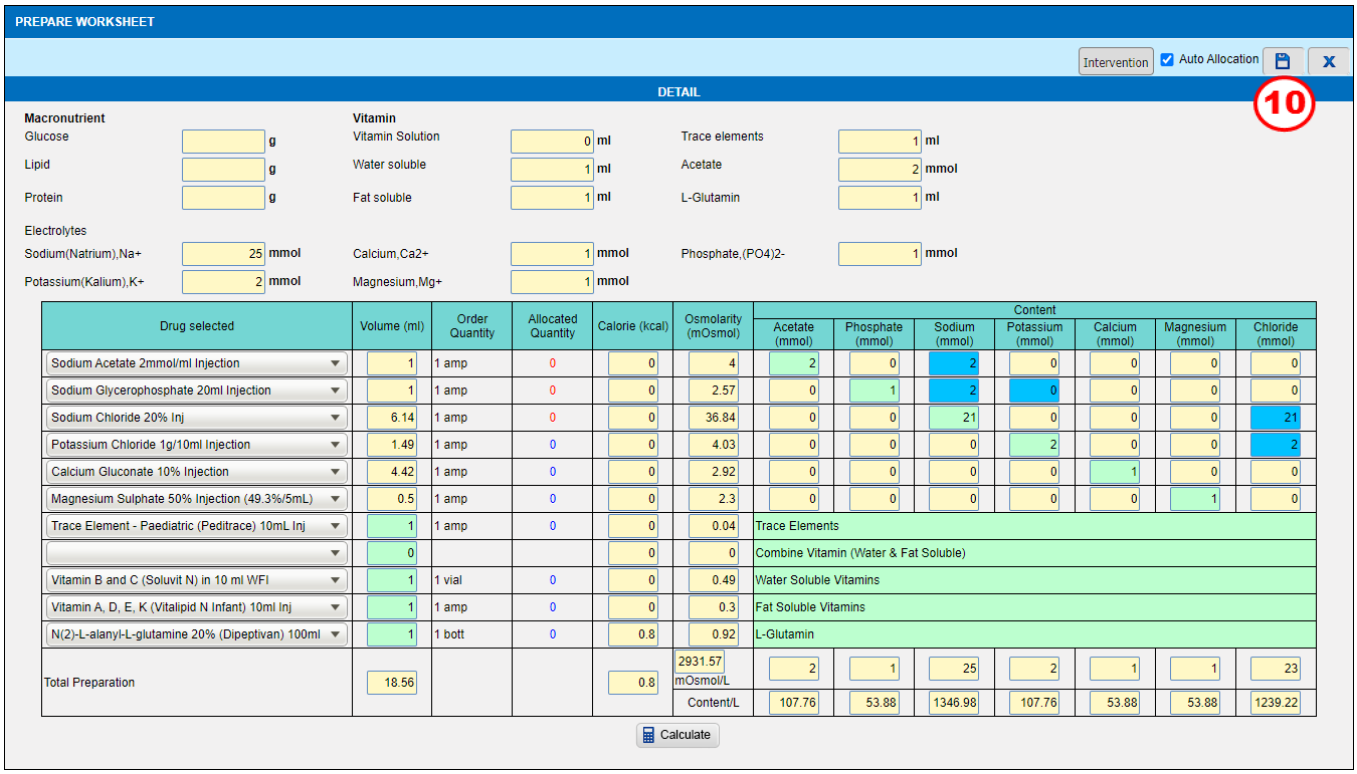


Figure 4.4-14 Prepare Worksheet

STEP 10

Click on the button and confirmation pop up will appear as in figure 4.4-15

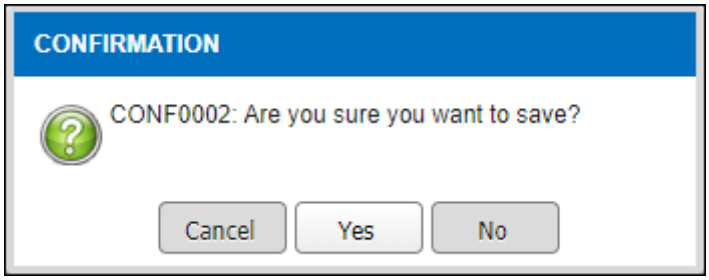


Figure 4.4-15 Confirmation Alert Message

Note

- *Click on the* Yes *button to save record and record will be update as shown in Figure 4.4-16*

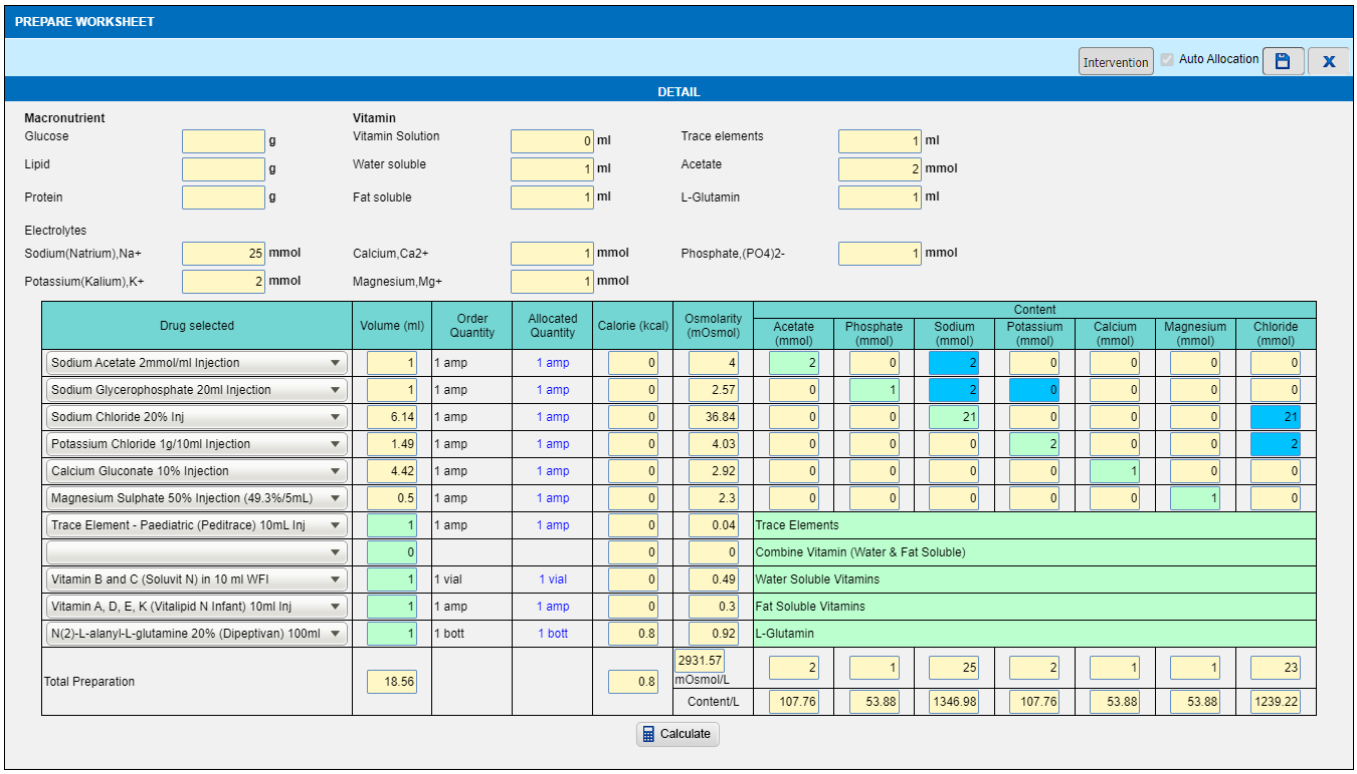


Figure 4.4-16 Prepare Worksheet

- *Click on* *button to close window and PN preparation screen will be display as shown in Figure 4.4-17*

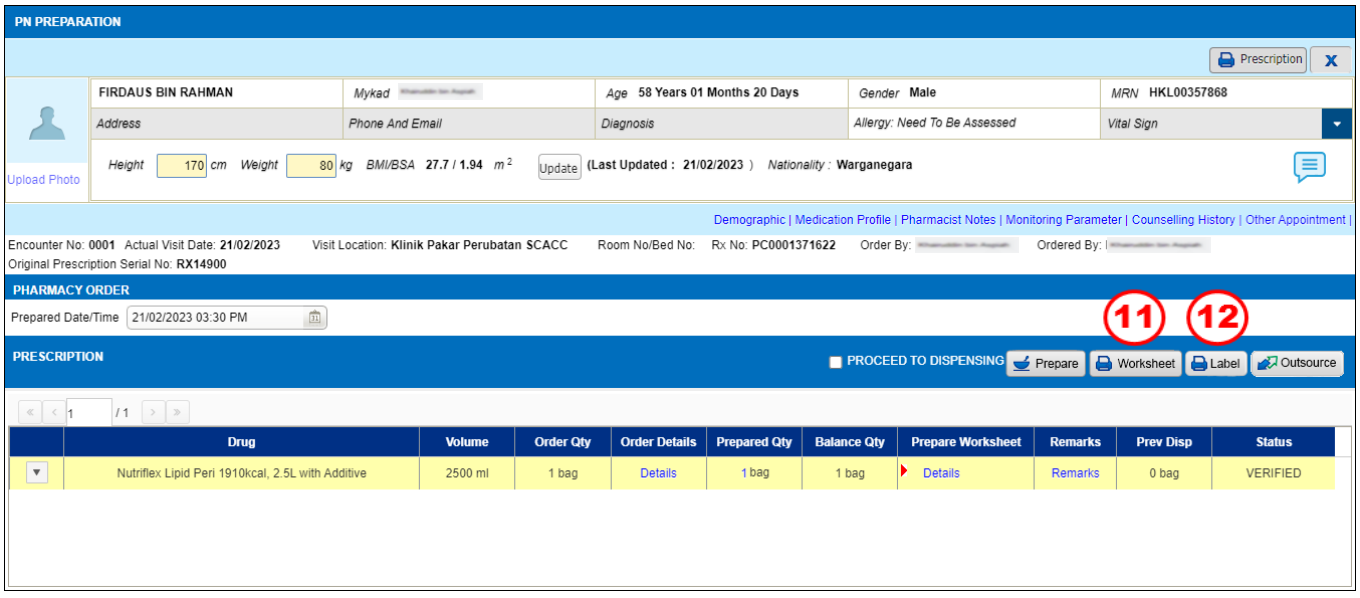


Figure 4.4-17 PN Preparation

STEP 11

Click on the button to generate worksheet as per Figure 4.4-18

PARENTERAL NUTRITION WORKSHEET

MINISTRY OF HEALTH

HOSPITAL KUALA LUMPUR

Patient Name	: FIRDAUS BIN RAHMAN	Worksheet	: A001-210223
MRN	: HKL00357868	Prepared Date/Time	: 21/02/2023 03:30 PM
Ward/Bed No	: Klinik Pakar Perubatan SCACC	Prescription #	: PC0001371622
Age	: 58 Years 01 Months 20 Days		
Gender	: Male		
Body Weight	: 80 kg		

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Nutriflex Lipid Peri 1910kcal, 2.5L	**2500**	1 bag	W3222	-
Sodium Chloride 20% Inj	**6.14**	1 ampoule	C2341	25 mmol
Sodium Glycerophosphate 20ml Injection	**1**	1 ampoule	V321	1 mmol
Magnesium Sulphate 50% Injection (49.3%/5mL)	**0.5**	1 ampoule	818059	1 mmol
Sodium Acetate 2mmol/ml Injection	**1**	1 ampoule	D2112	2 mmol
Potassium Chloride 1g/10ml Injection	**1.49**	1 ampoule	23423	2 mmol
Calcium Gluconate 10% Injection	**4.42**	1 ampoule	NKLee324	1 mmol
Trace Element - Paediatric (Peditrace) 10mL Inj	**1**	1 ampoule	332342	1 ml
Vitamin A, D, E, K (Vitalipid N Infant) 10ml Inj	**1**	1 ampoule	23423	1 ml
Vitamin B and C (Soluvit N) in 10 ml WFI	**1**	1 vial	2323	1 ml
N(2)-L-alanyl-L-glutamine 20% (Dipeptivan) 100ml IV Soln	**1**	1 bottle	C3431	1
TPN Volume Bag	**2518.56**	1 Bag		

Worksheet Generated By : [redacted] Date : 21/02/2023

Worksheet and Label Checked By : Supervised By :

Bag Prepared By :

Final Product Checked By :

Figure 4.4-18 Sample PN Worksheet

STEP 12

Click on the Label button to edit label and PN Edit Label window will display as per Figure 4.4-19.

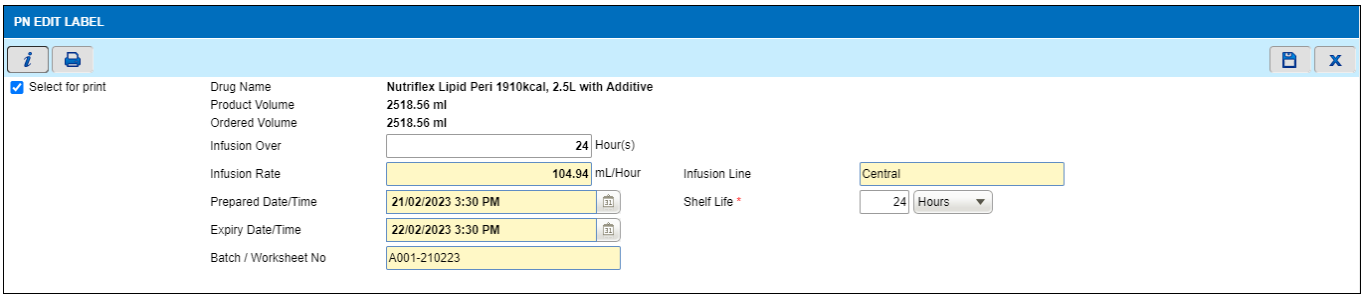


Figure 4.4-19 PN Edit Label

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		
Nutriflex Lipid Peri 1910kcal, 2.5L with Additive		
NAME : FIRDAUS BIN RAHMAN		
ID NO :		
AGE : 58 Years 01 Months 20 Days		
MRN : HKL00357868	WARD/BED NO: Klinik Pakar Perubatan SCACC	
Product Volume 2518.56 ml/bag		
Ordered Volume 2518.56 ml/bag		
Content	***/ kg***	***/ bag***
Protein (g)	1	80
Dextrose (g)	2	160
Lipid (g)	1.25	100
Sodium (mmol)	**1.56**	**125**
Potassium (mmol)	**0.78**	**62**
Calcium (mmol)	**0.09**	**7**
Magnesium (mmol)	**0.09**	**7**
Phosphate (mmol)	**0.2**	**16**
Chloride (mmol)	**1.49**	**119**
Acetate (mmol)	**1.02**	**82**
Trace Element (ml)	**0.01**	**1**
Vitamins (ml)	0.03	2
Calories (kcal)	23.88	1910.8
Osmolarity (mOsm/l)	10.69	855.41
L-Glutamin (g)	0	0.2
Admin Date/Time :		
Infusion Rate	104.94 mL/Hrs	
Infusion Over	24 Hrs	
Prepared Date	21/02/2023 3:30 PM	
Worksheet ID : A001-210223	Expiry Date : 22/02/2023	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 4.4-20 PN Label

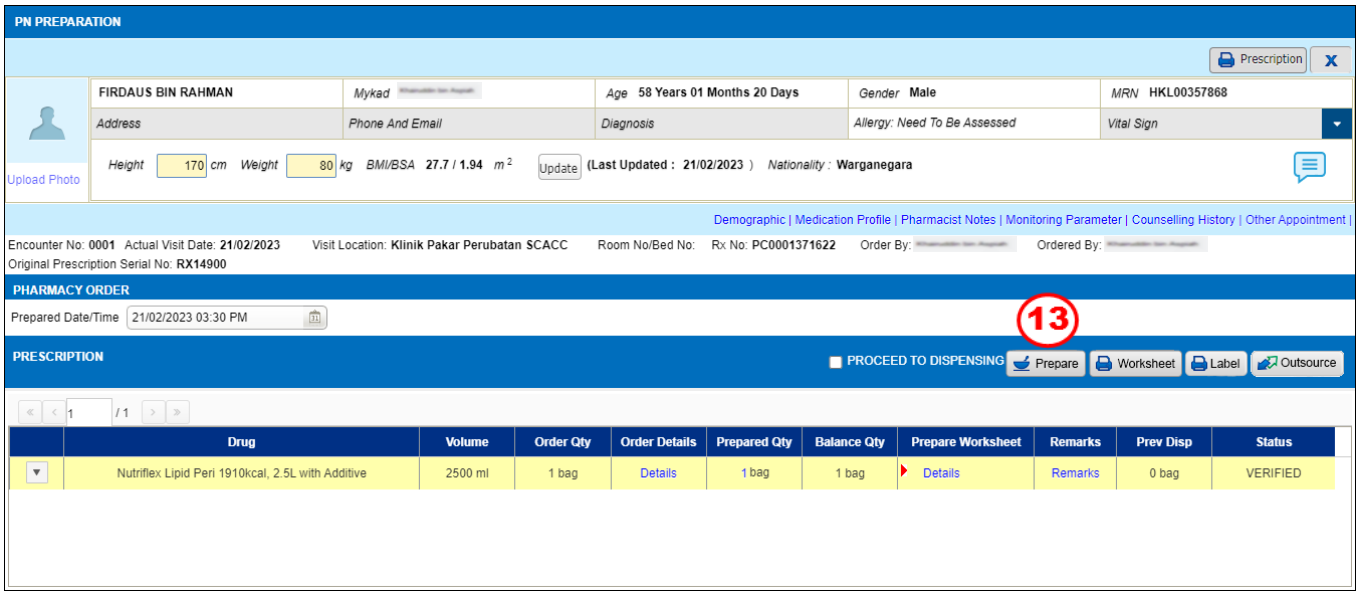


Figure 4.4-21 PN Preparation

STEP 13

Click on the Prepare button to prepare PN order

Note

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

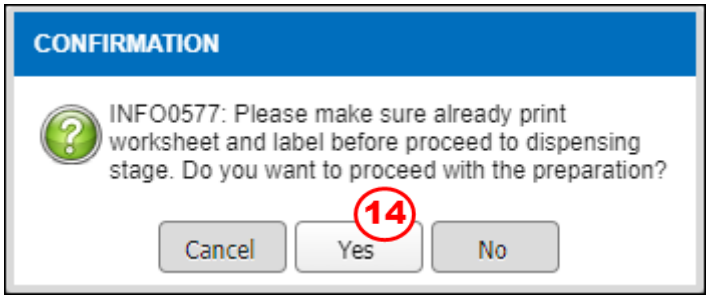


Figure 4.4-22 PN Confirmation Alert Message

STEP 14

Click on the Yes button to confirm prepare order

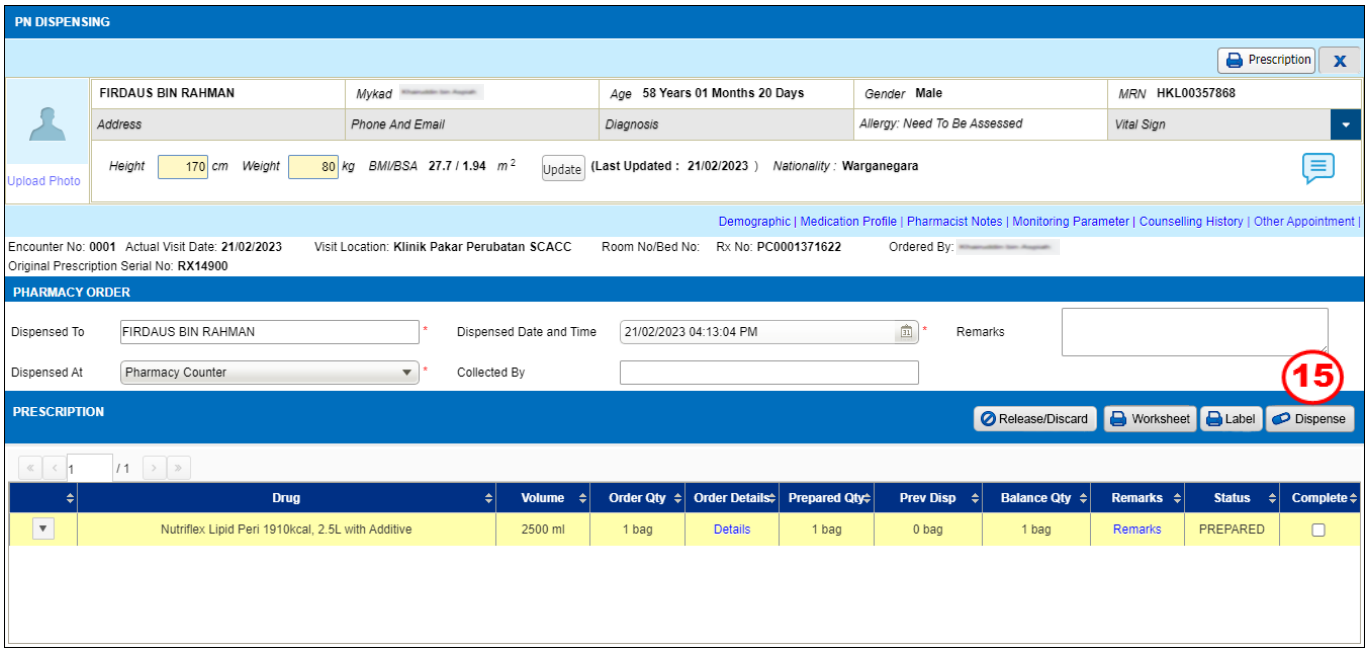


Figure 4.4-23 PN Dispensing

STEP 15

Click on the Dispense button and alert message will be displayed as per Figure 4.4-24

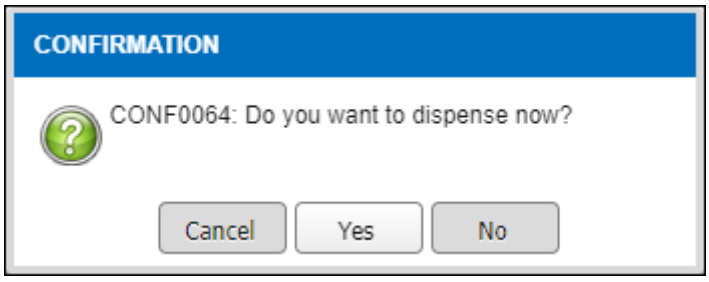


Figure 4.4-27 Confirmation Alert message

Note

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

4.5 Compounded (Adult)

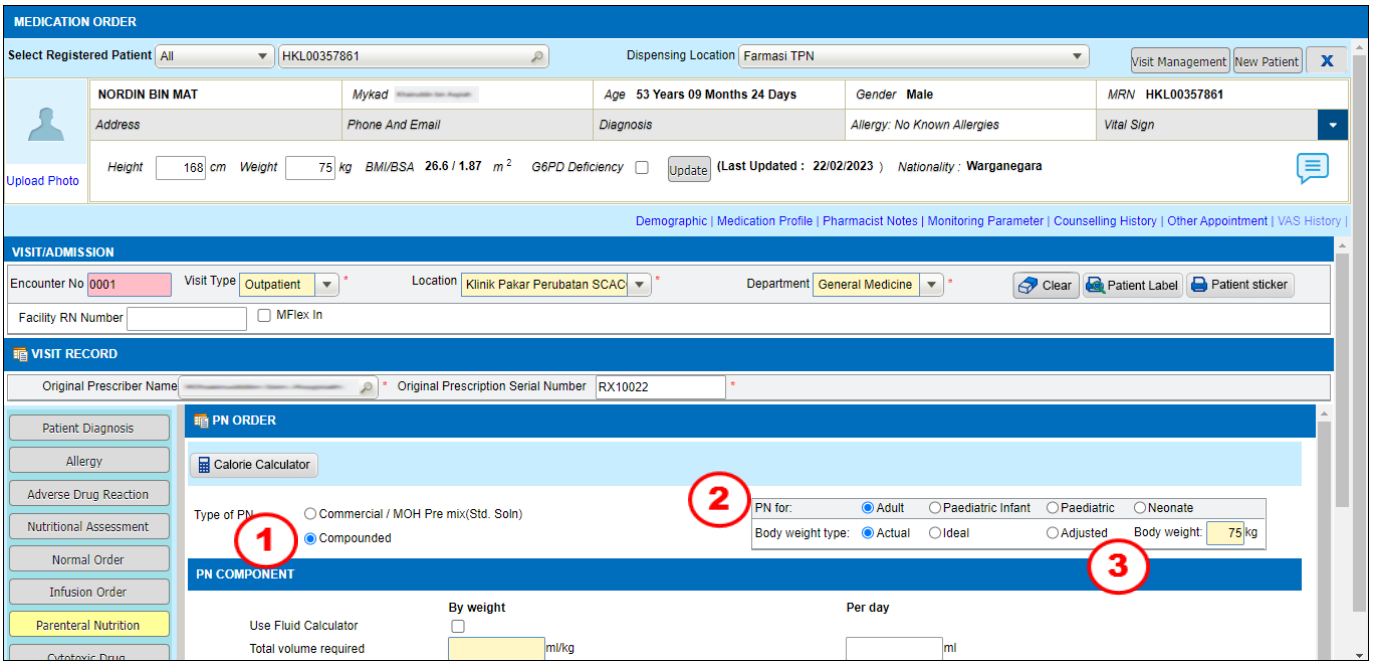
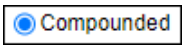


Figure 4.5-1 Medication Order

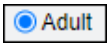
PN Compounded allow user to order compounded PN with customized nutrition based on patient requirement.

STEP 1

Select on 

radio button for 'Type of PN'

STEP 2

Select on 

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**.*

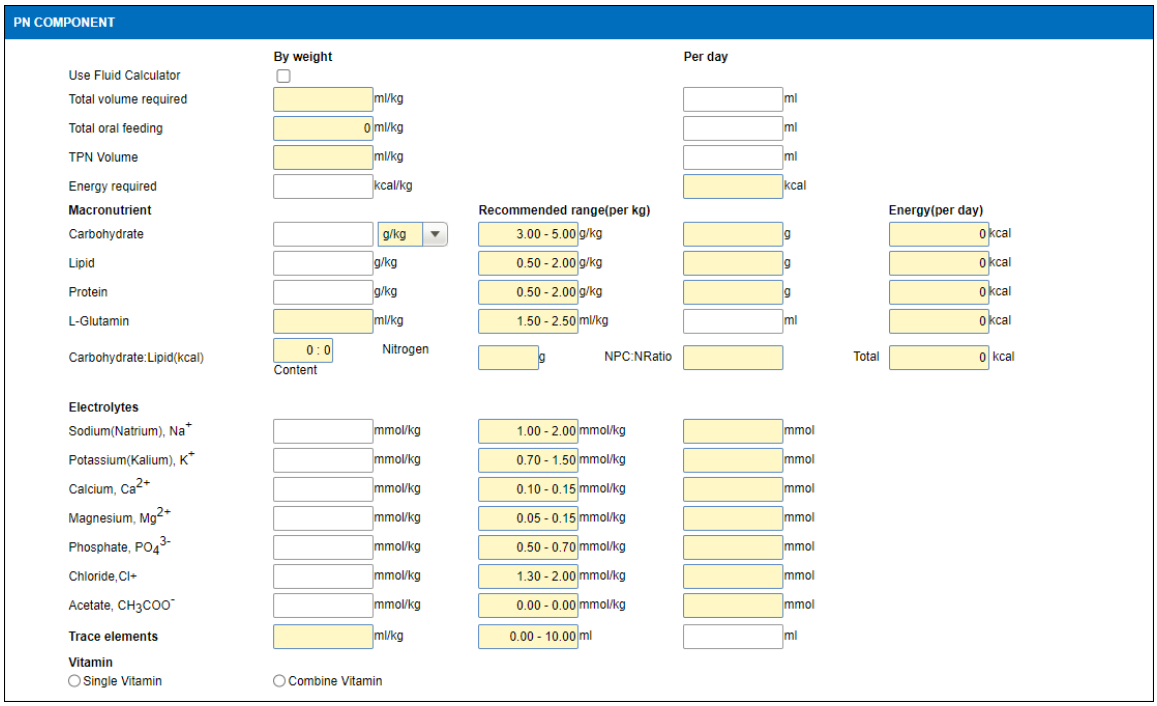


Figure 4.5-2 PN Component

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.*

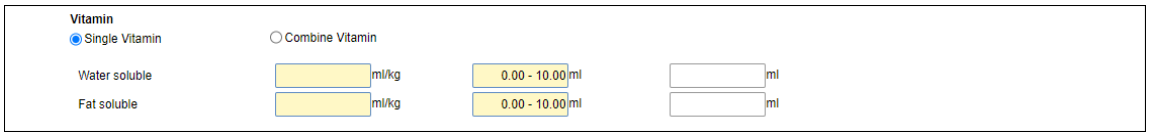


Figure 4.5-3 Single Vitamin

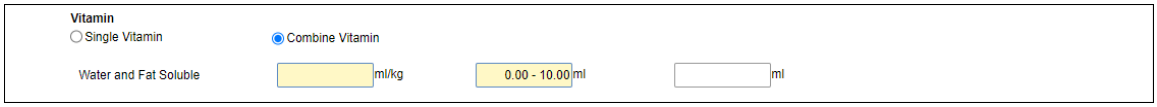


Figure 4.5-4 Combine Vitamin

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.*

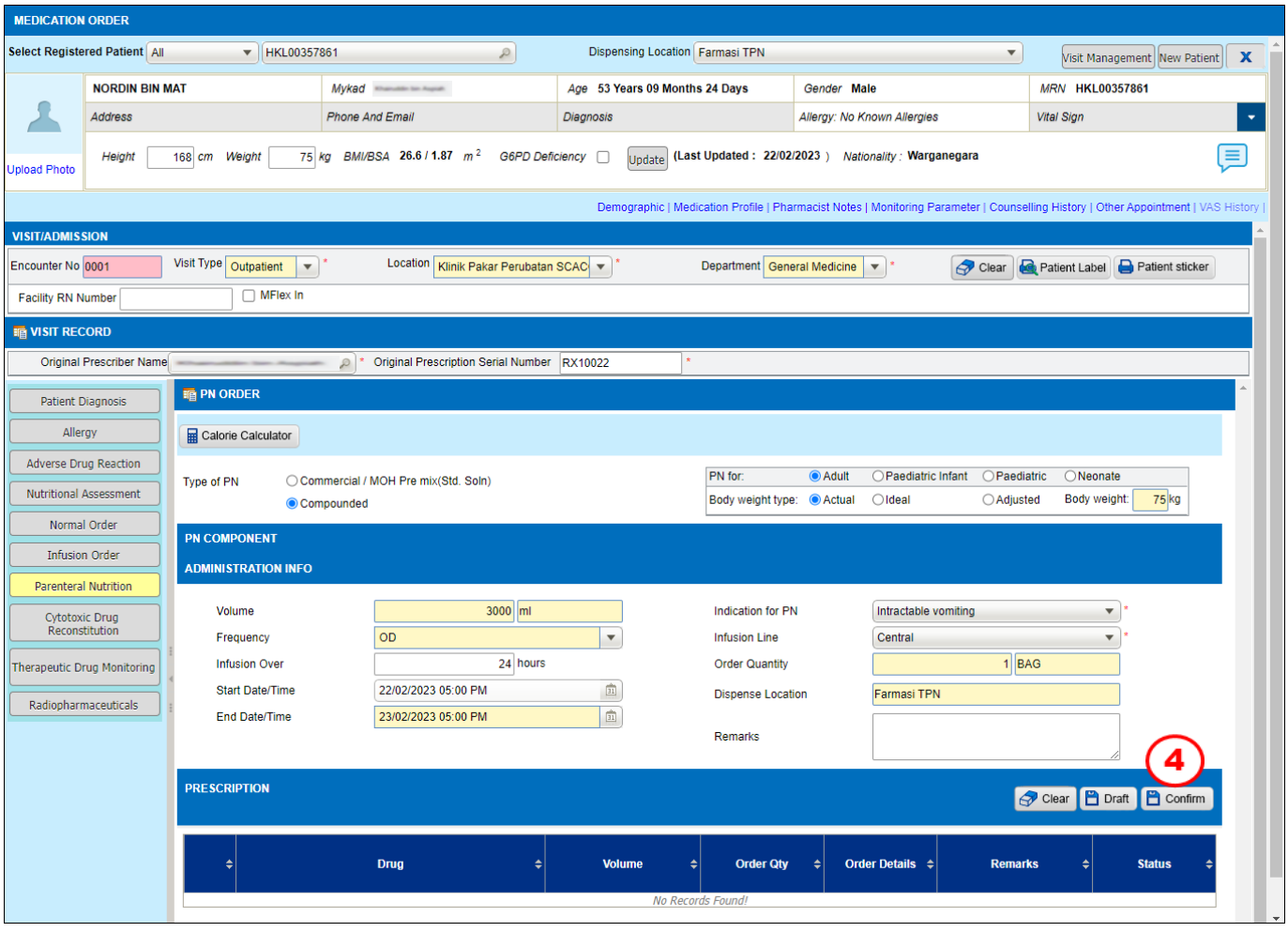


Figure 4.5-6 Medication Order

STEP 4

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

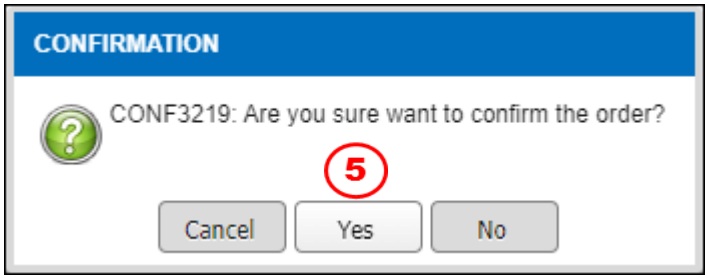


Figure 4.5-7 Information Alert Message

STEP 5

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

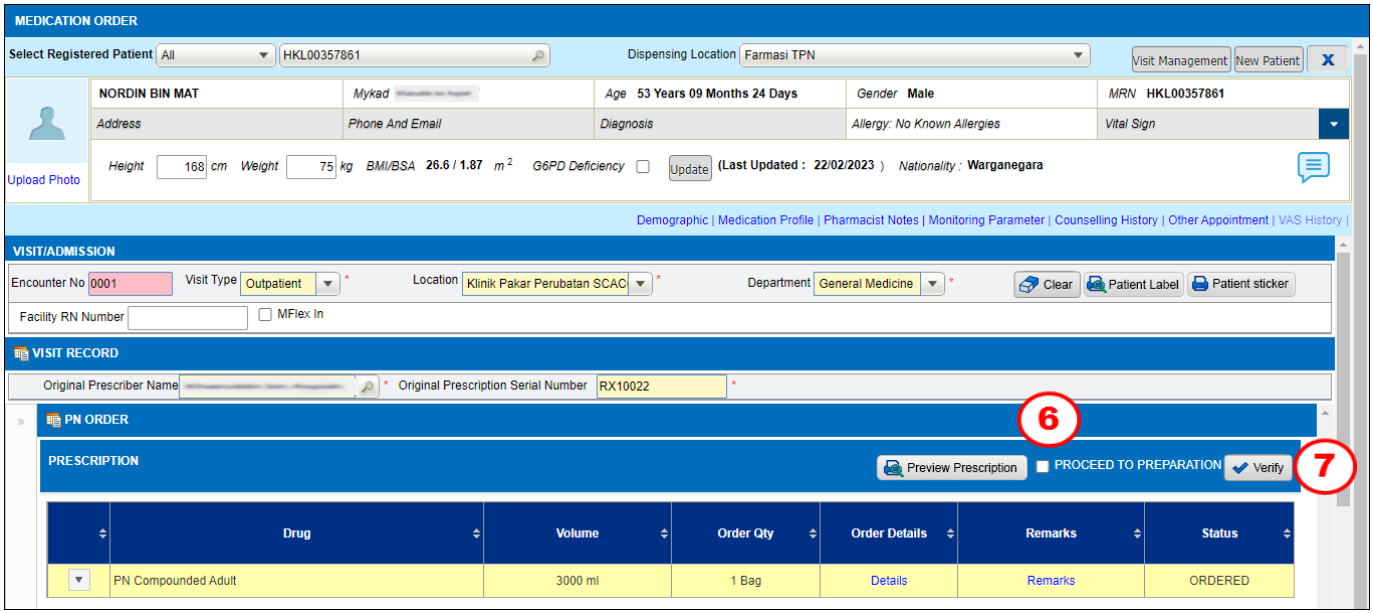


Figure 4.5-8 PN Verification

STEP 6

Check the PROCEED TO PREPARATION check box

Note

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

STEP 7

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

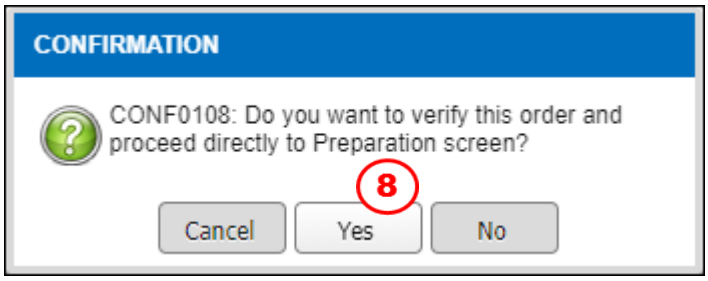


Figure 4.5-9 Information Alert Message

STEP 8

Click on the Yes button to confirm the verification

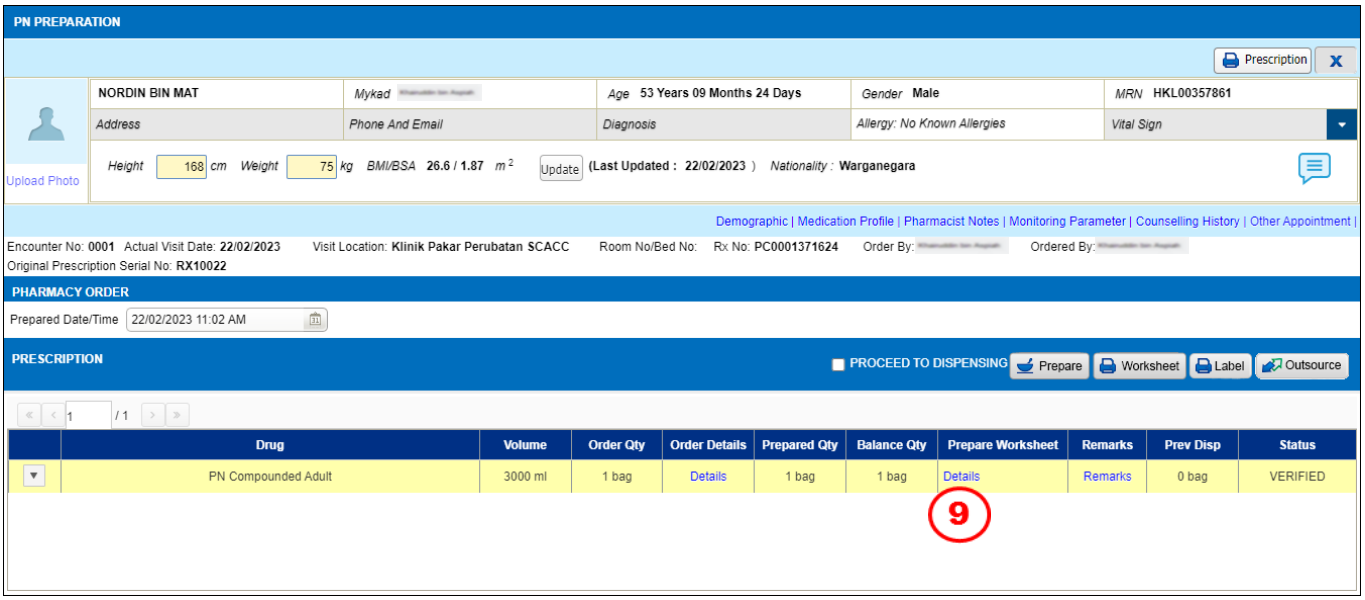


Figure 4.5-10 PN Preparation

STEP 9

Click on the ***Prepare Worksheet*** Details button to prepare worksheet as per Figure 4.5-10

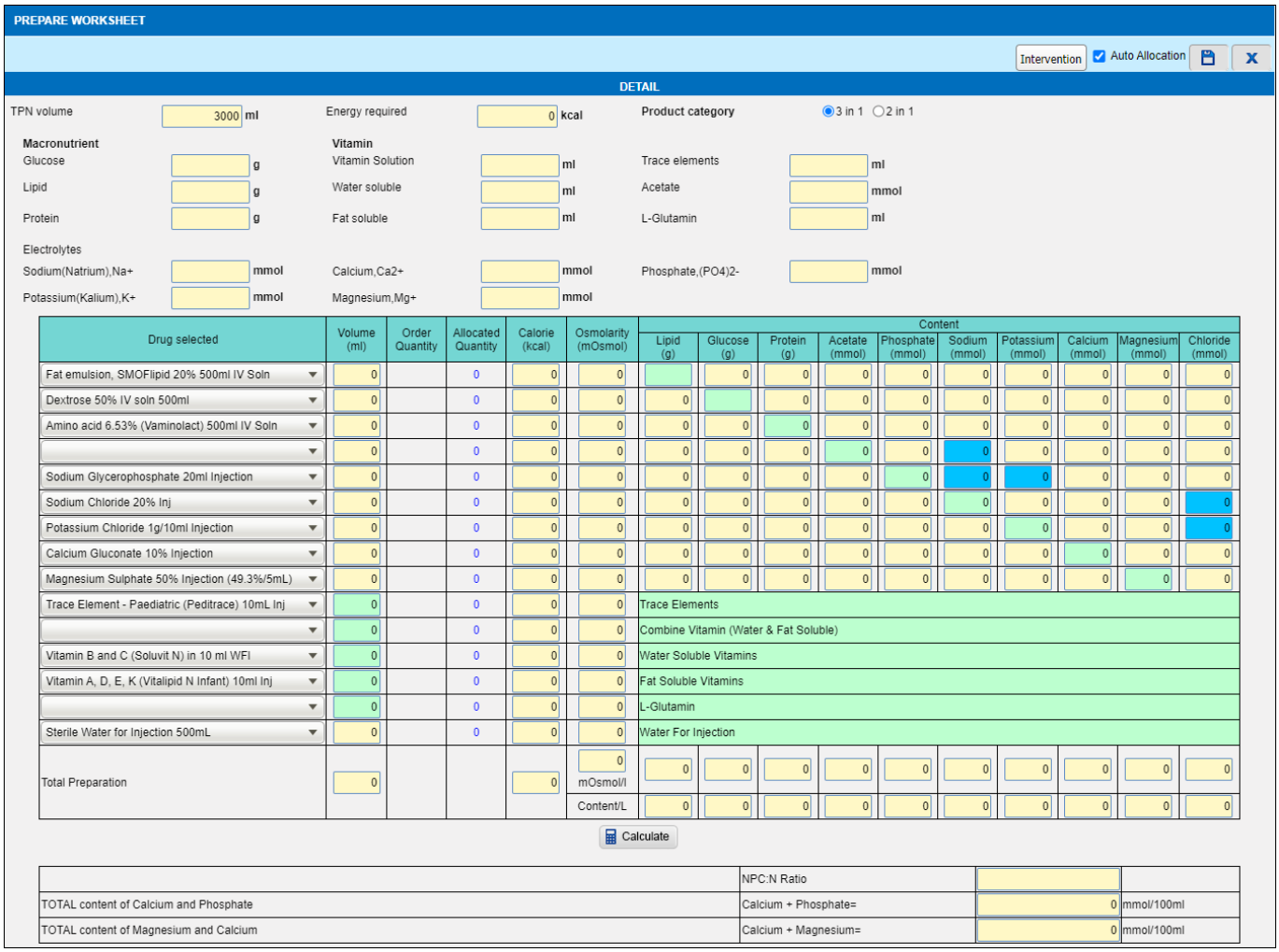


Figure 4.5-11 Prepare Worksheet

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.*

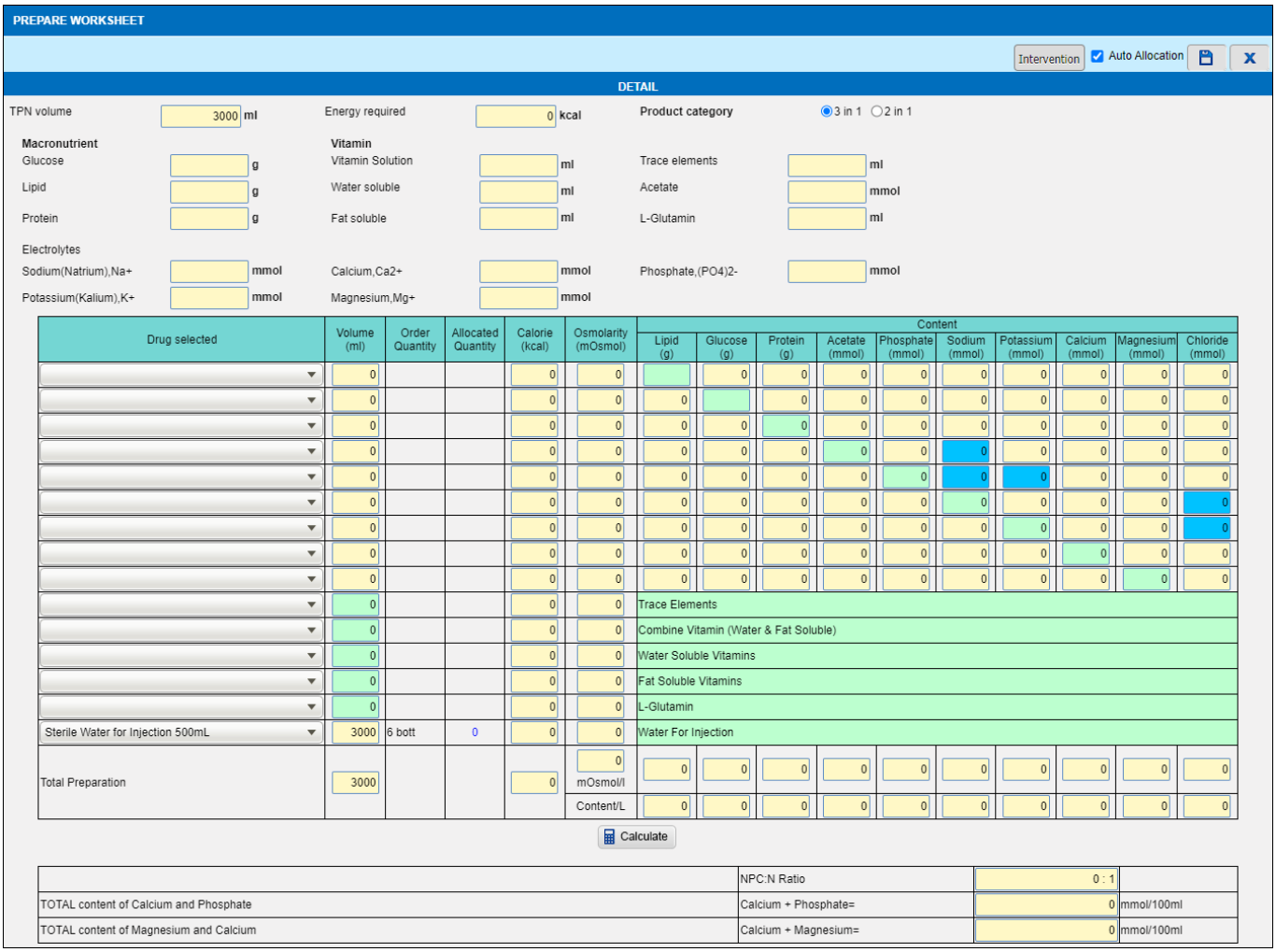


Figure 4.5-12 Prepare Worksheet

Note

- *Check on the* Auto Allocation *checkbox.*
- *Click on the* *button to save record.*
- *Alert message will be display as shown in Figure 4.5-13 click on* Yes *button to proceed*

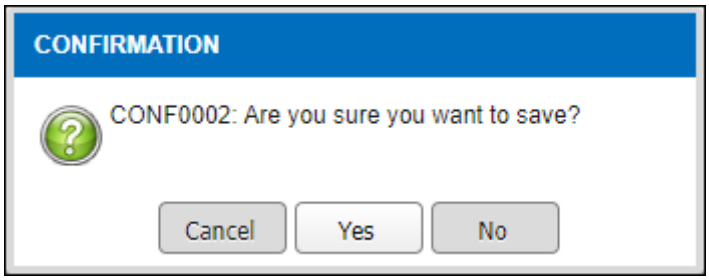


Figure 4.5-13 Confirmation Alert Message

- ***Allocated Quantity*** *will be automatically calculated and displayed by system after click on the save button*
- *Click on* *button to close window and PN preparation screen will be display as shown in Figure 4.5-14*

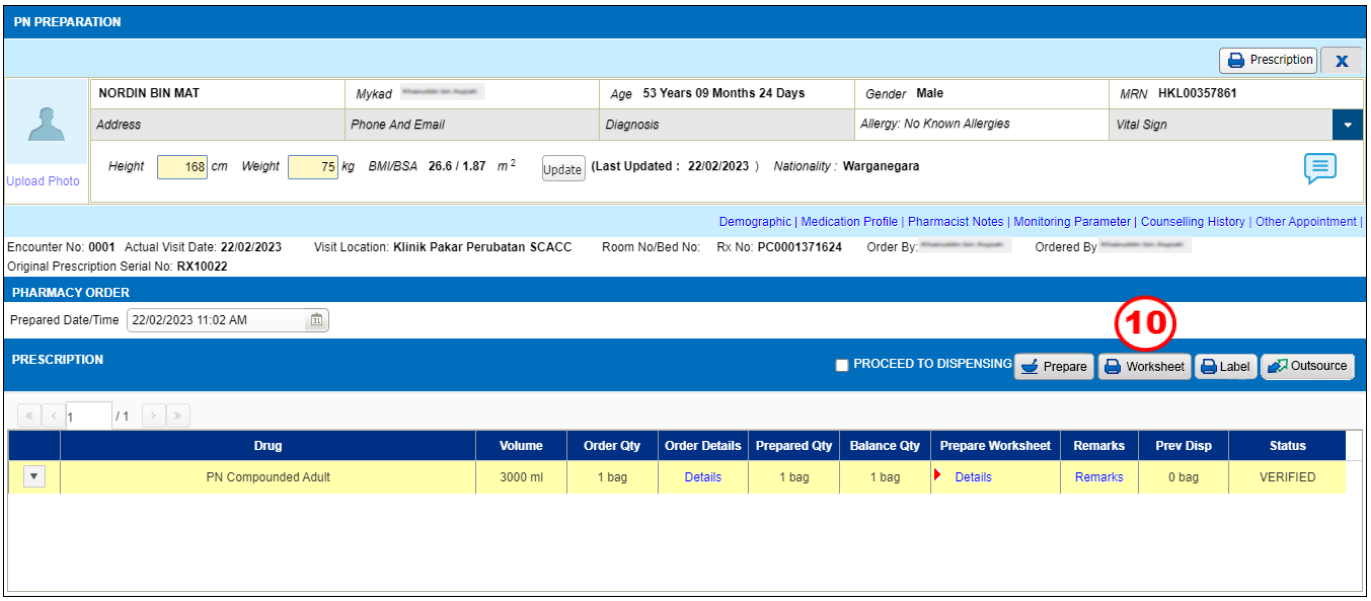
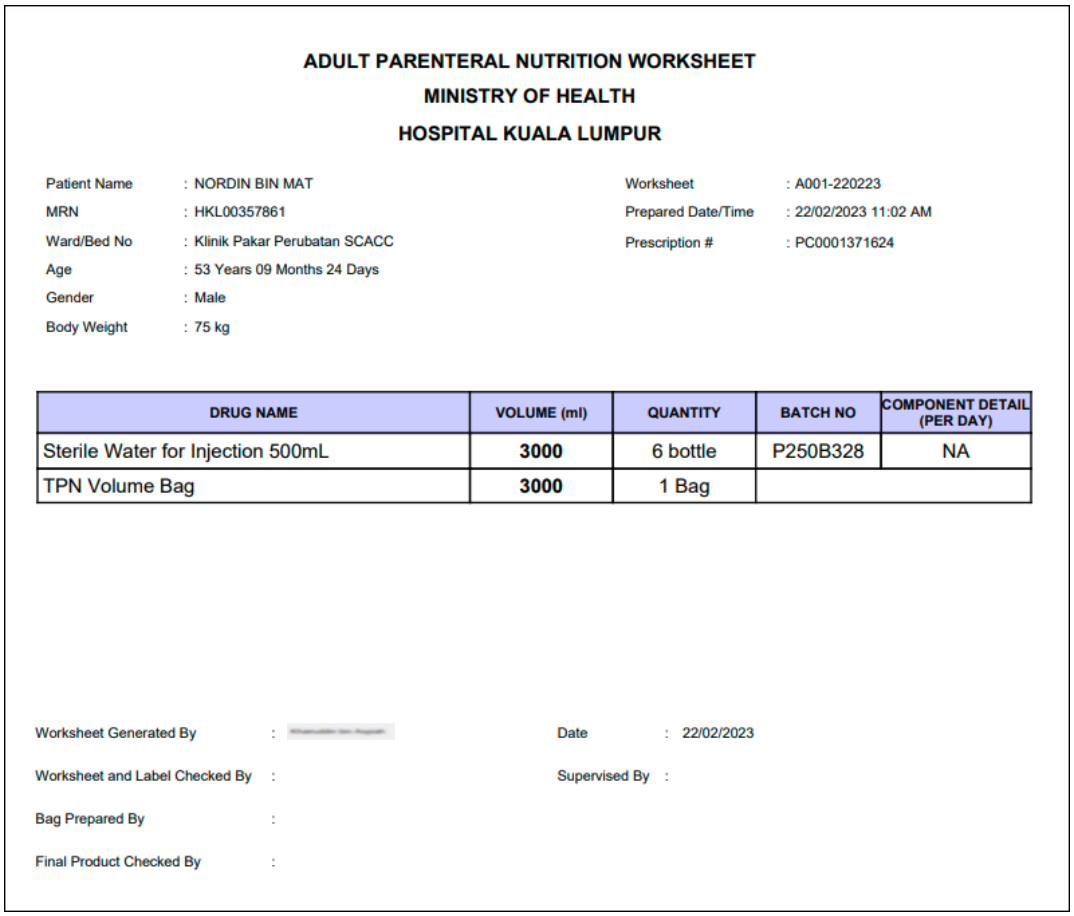


Figure 4.5-13 PN Preparation

STEP 10

Click on the Worksheet button to print Worksheet



ADULT PARENTERAL NUTRITION WORKSHEET

MINISTRY OF HEALTH

HOSPITAL KUALA LUMPUR

Patient Name : NORDIN BIN MAT
MRN : HKL00357861
Ward/Bed No : Klinik Pakar Perubatan SCACC
Age : 53 Years 09 Months 24 Days
Gender : Male
Body Weight : 75 kg

Worksheet : A001-220223
Prepared Date/Time : 22/02/2023 11:02 AM
Prescription # : PC0001371624

DRUG NAME	VOLUME (ml)	QUANTITY	BATCH NO	COMPONENT DETAIL (PER DAY)
Sterile Water for Injection 500mL	**3000**	6 bottle	P250B328	NA
TPN Volume Bag	**3000**	1 Bag		

Worksheet Generated By :
Date : 22/02/2023
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* Label *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.*

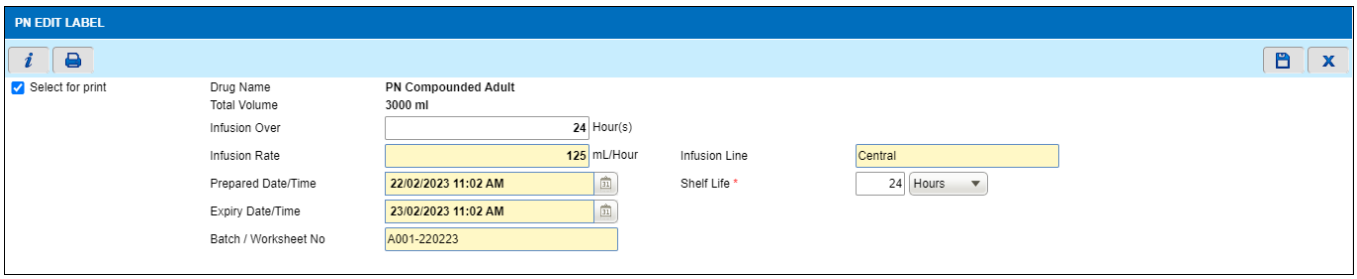


Figure 4.5-15 PN Edit Label

HOSPITAL KUALA LUMPUR

PARENTERAL NUTRITION (Adult)

NAME : NORDIN BIN MAT

ID NO : [redacted]

AGE : 53 Years 09 Months 24 Days

MRN : HKL00357861	WARD/BED NO: Klinik Pakar Perubatan SCACC

Total Volume 3000 ml/bag

Content	*/ kg*	*/ bag*
Protein (g)	0	0
Dextrose (g)	0	0
Lipid (g)	0	0
Sodium (mmol)	0	0
Potassium (mmol)	0	0
Calcium (mmol)	0	0
Magnesium (mmol)	0	0
Phosphate (mmol)	0	0
Chloride (mmol)	0	0
Acetate (mmol)	0	0
Trace Element (ml)	0	0
Vitamins (ml)	0	0
Calories (kcal)	0	0
Osmolarity (mOsm/l)	0	0
L-Glutamin (g)	0	0

Admin Date/Time :

Infusion Rate	125 mL/Hrs	
Infusion Over	24 Hrs	
Prepared Date	22/02/2023 11:02 AM	
Worksheet ID : A001-220223	Expiry Date : 23/02/2023	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 4.5-16 Sample PN Label

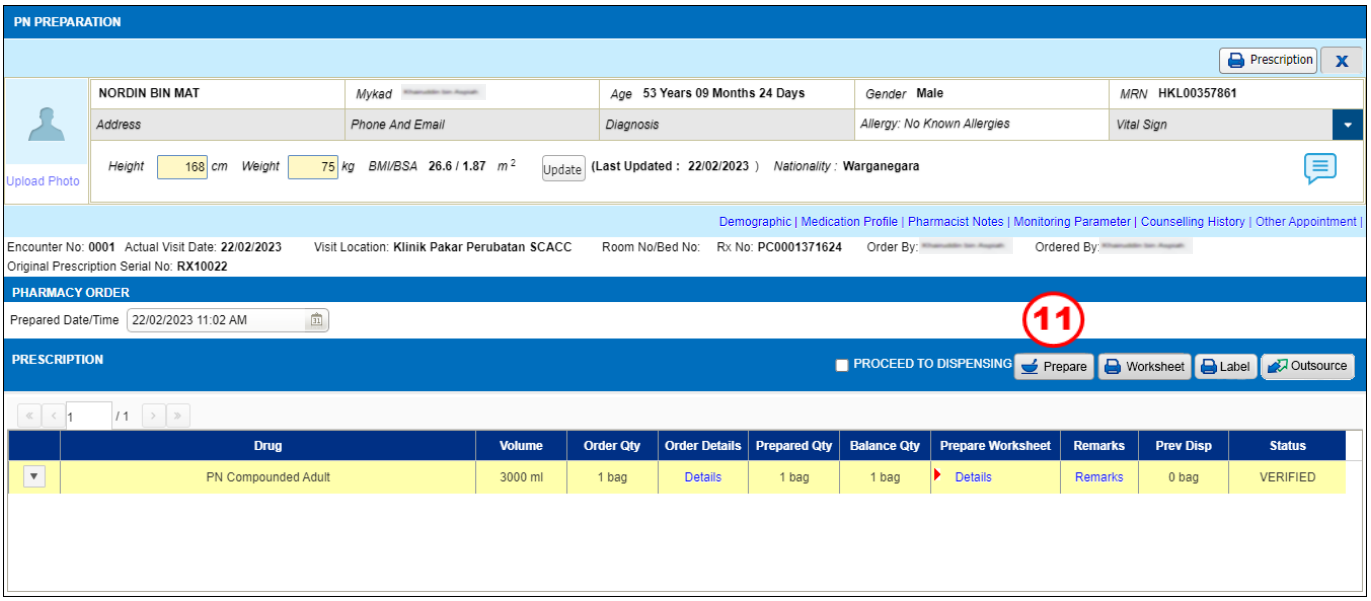


Figure 4.5-17 PN Preparation

STEP 11

Click on the Prepare button to prepare PN order

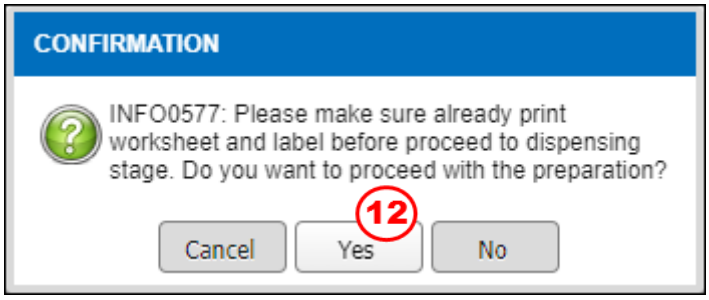


Figure 4.5-18 Confirmation Alert Message

STEP 12

Click on the Yes button to confirm prepare order

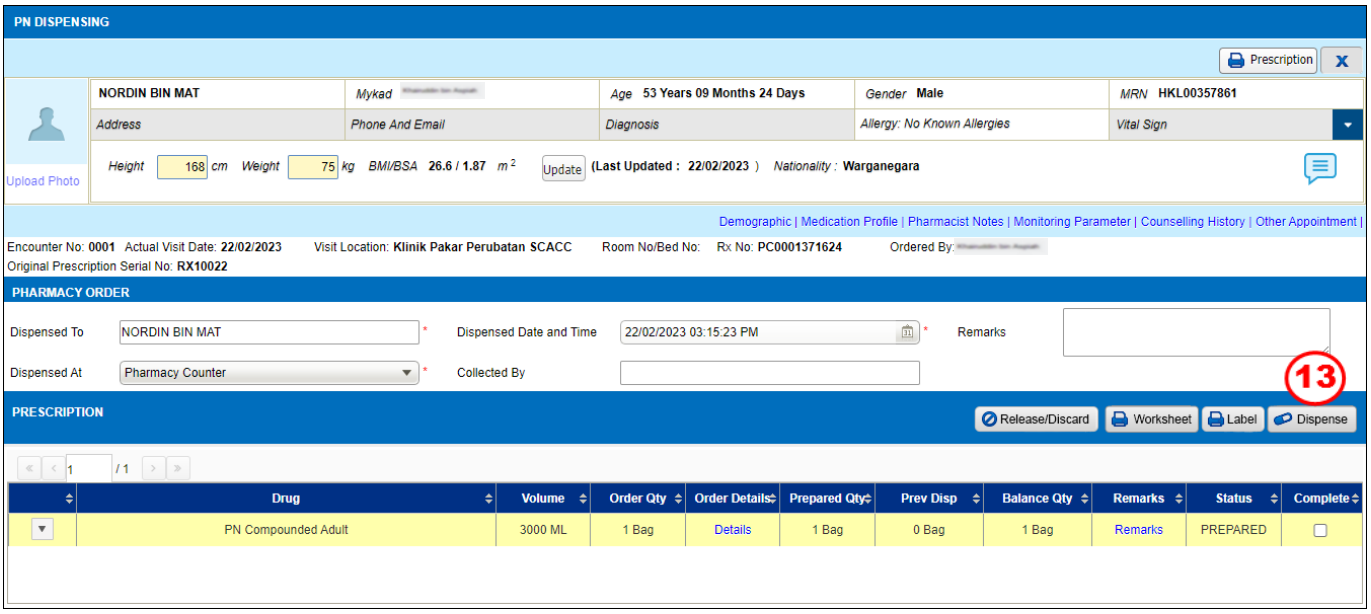


Figure 4.5-19 PN Dispensing

STEP 13

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

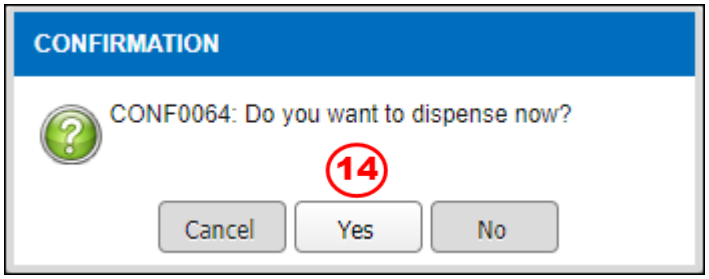


Figure 4.5-20 Confirmation Alert Message

STEP 14

Click on the Yes button to confirm prepare order

Note

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

4.6 Compounded (Paediatric)

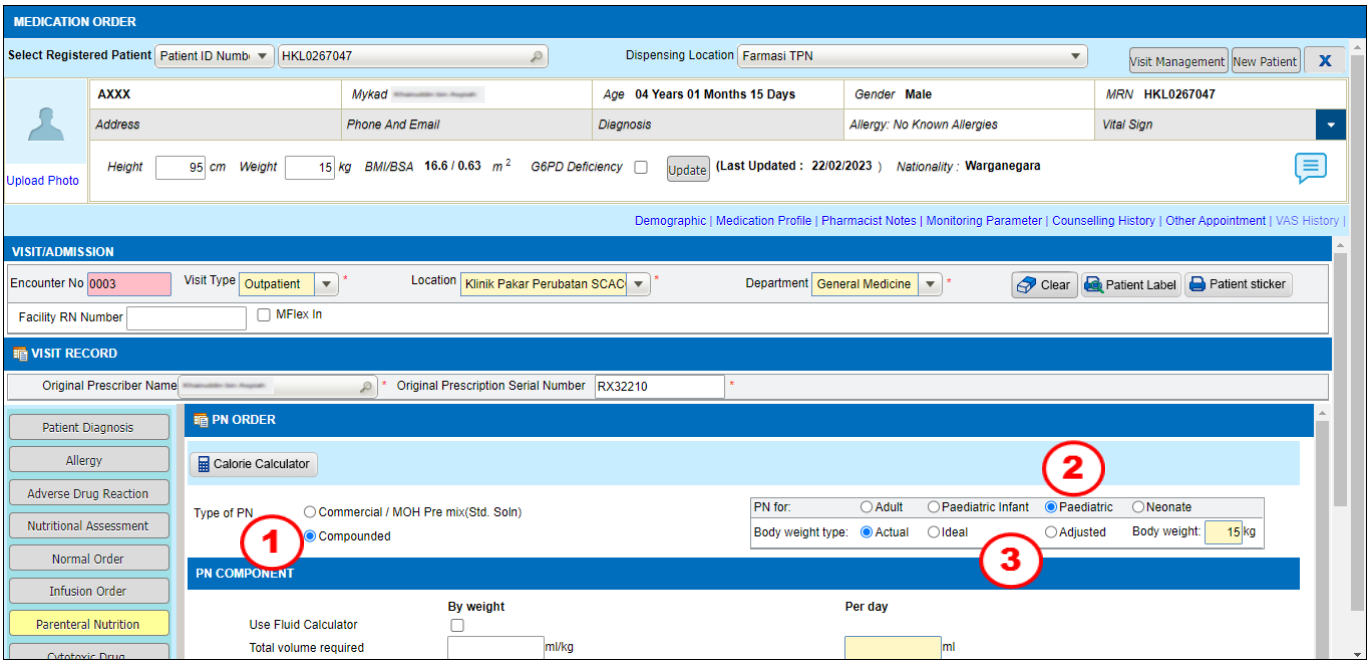


Figure 4.6-1 Medication Order

PN Compounded (Pediatric) 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

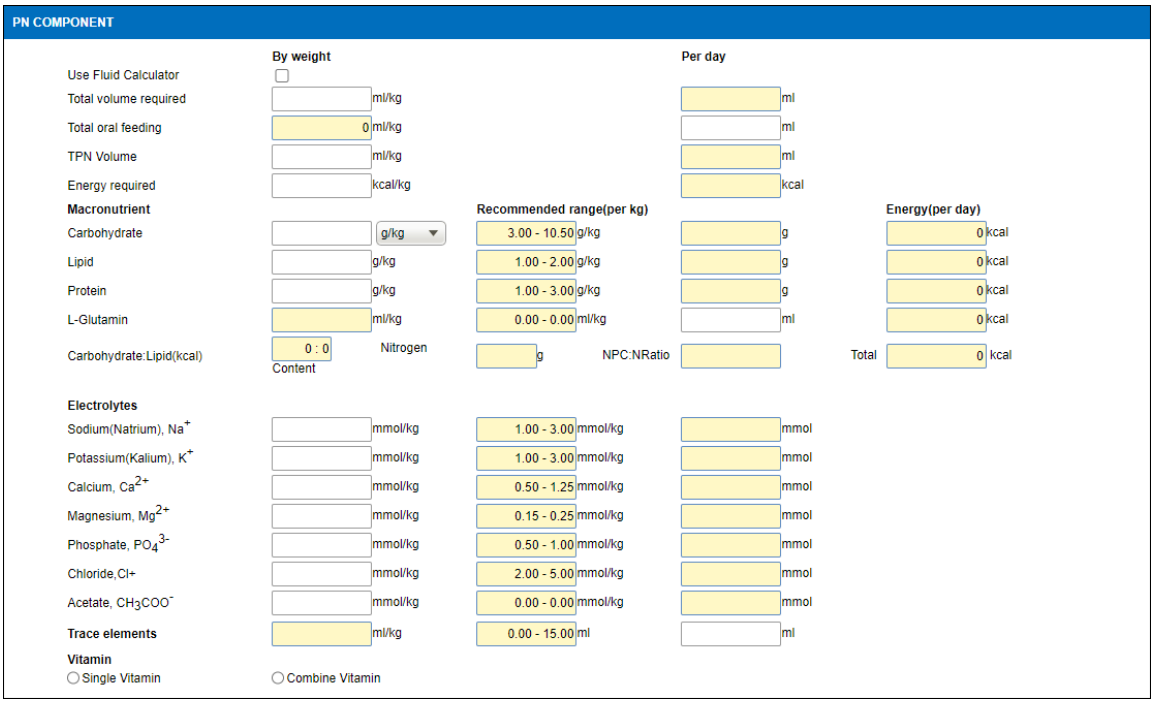


Figure 4.6-2 PN Component

Note

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

PN Component

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

Macronutrient

- *Enter value of the **Macronutrient** that applicable for the **PN Component** .*
- *All entered value must between the **Recommended Range (per kg)**. User can still proceed if value is not within the recommended range.*
- *All value **Per day** and **Energy(per day)** will automatically calculate and display.*
- ***L-Gutamin** is an optional function.Value of **By weight** and **Energy(per day)** will automatically display.*
- ***Value of Carbohydrate:Lipid(kcal) Content, Nitrogen** and **NPC:Ratio** will automatically calculate and display.*
- ***Value of Carbohydrate:Lipid(kcal) Content, Nitrogen** and **NPC:Ratio** will automatically calculate and display.*

Electrolytes

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

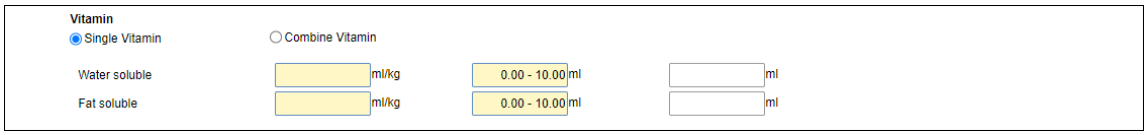


Figure 4.6-3 Single Vitamin

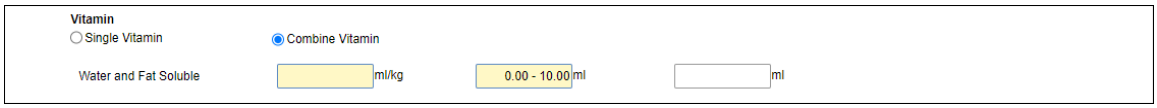


Figure 4.6-4 Combine Vitamin

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.*

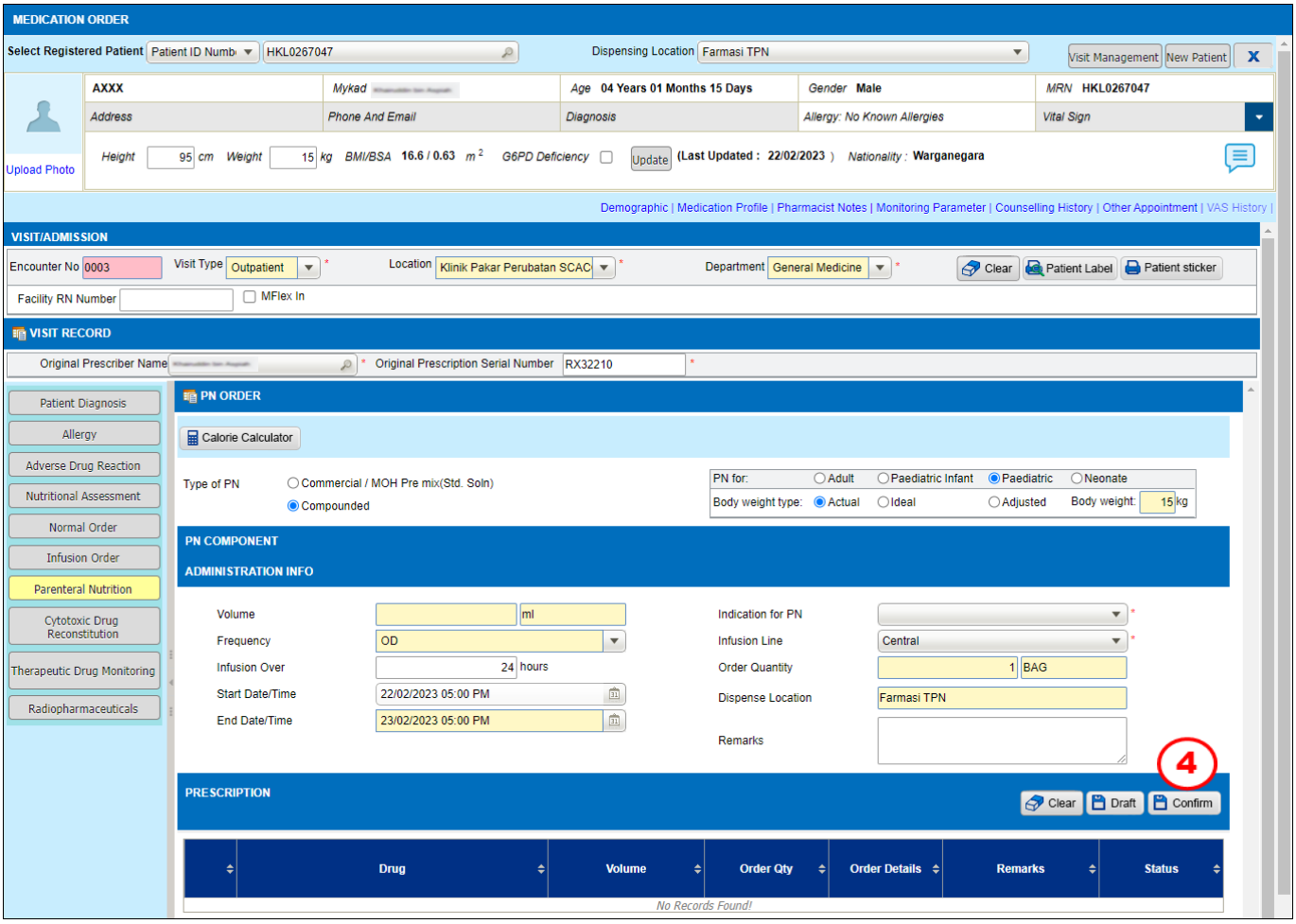


Figure 4.6-5 Administration Info

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***

STEP 4

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

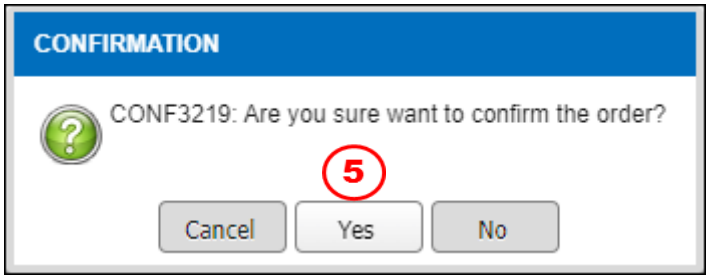


Figure 4.6-7 Prescription

STEP 5

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

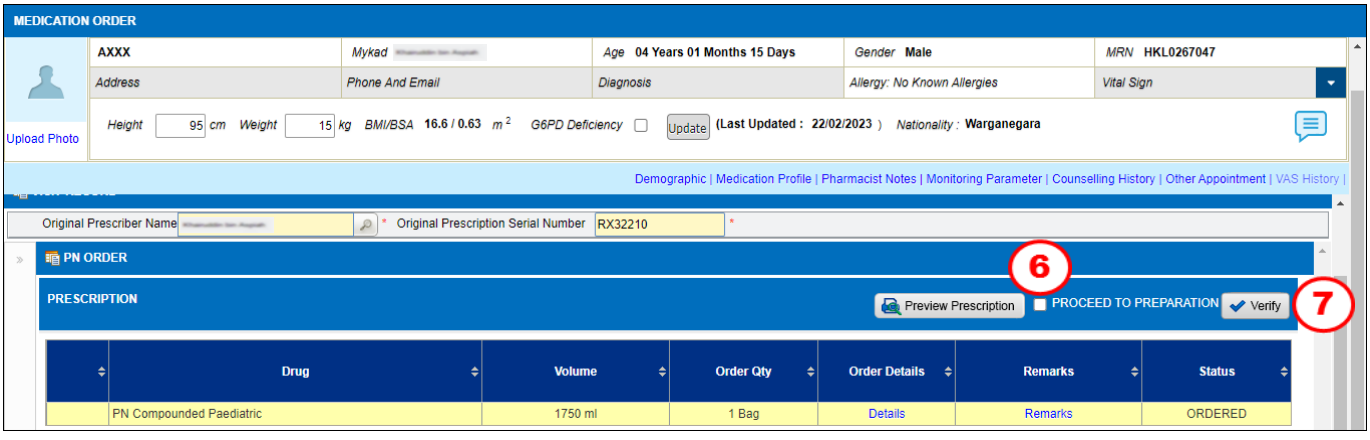


Figure 4.6-8 Medication Order : Verify

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

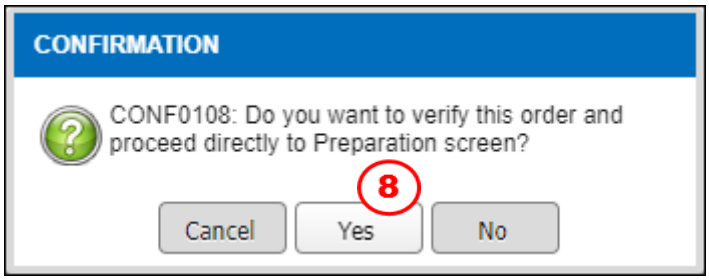


Figure 4.6-9 Confirmation Alert Message

STEP 8

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

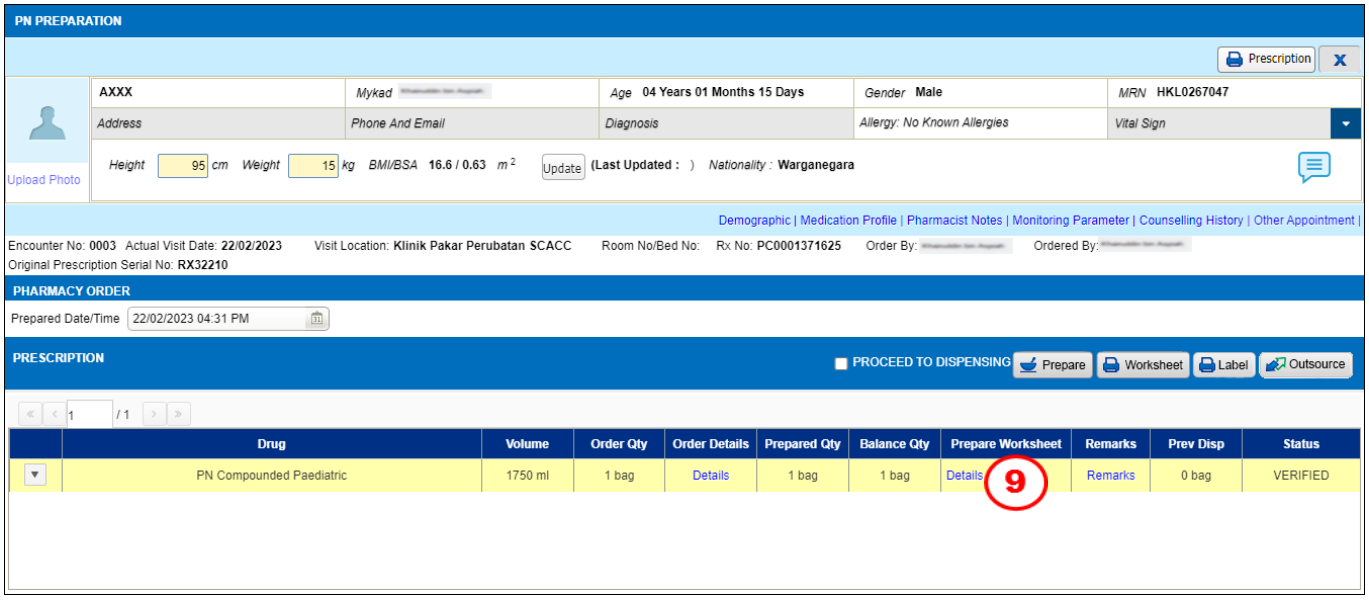


Figure 4.6-10 PN Preparation

STEP 9

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

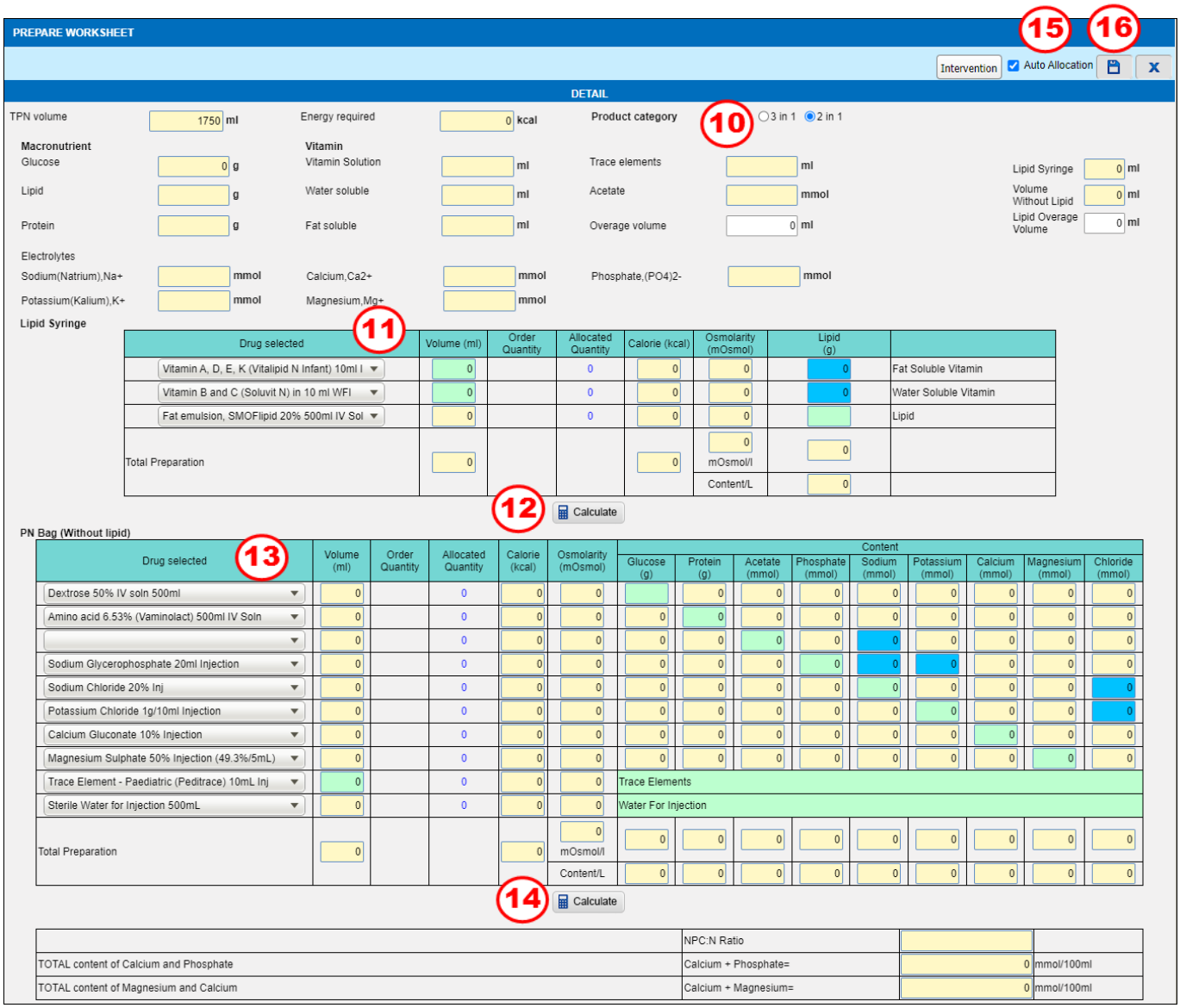


Figure 4.6-11 Prepare Worksheet

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 Calculate 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 Calculate 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 Calculate button on PN Bag table*

Lipid Overage Volume
- *Enter excess amount for Lipid Syringe preparation.*
- *Click on the Calculate button on Lipid Syringe table.*

STEP 15
Check on the Auto Allocation checkbox

STEP 16
Click on the button to save record

Note
- *Alert message will be display as shown in Figure 4.6-12 click on Yes button to proceed*

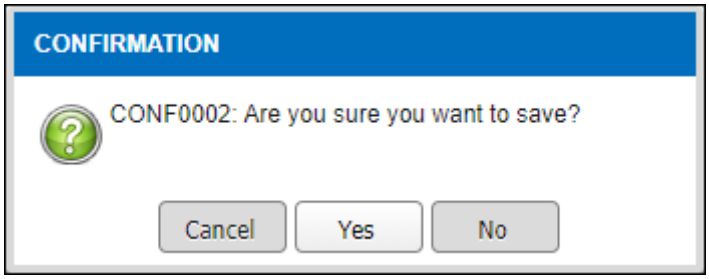


Figure 4.6-12 Confirmation Alert Message

- ***Allocated Quantity*** *will be automatically calculated and displayed by system after click on the save button*
- *Click on X button to close window and PN preparation screen will be display as shown in Figure 4.6-13*

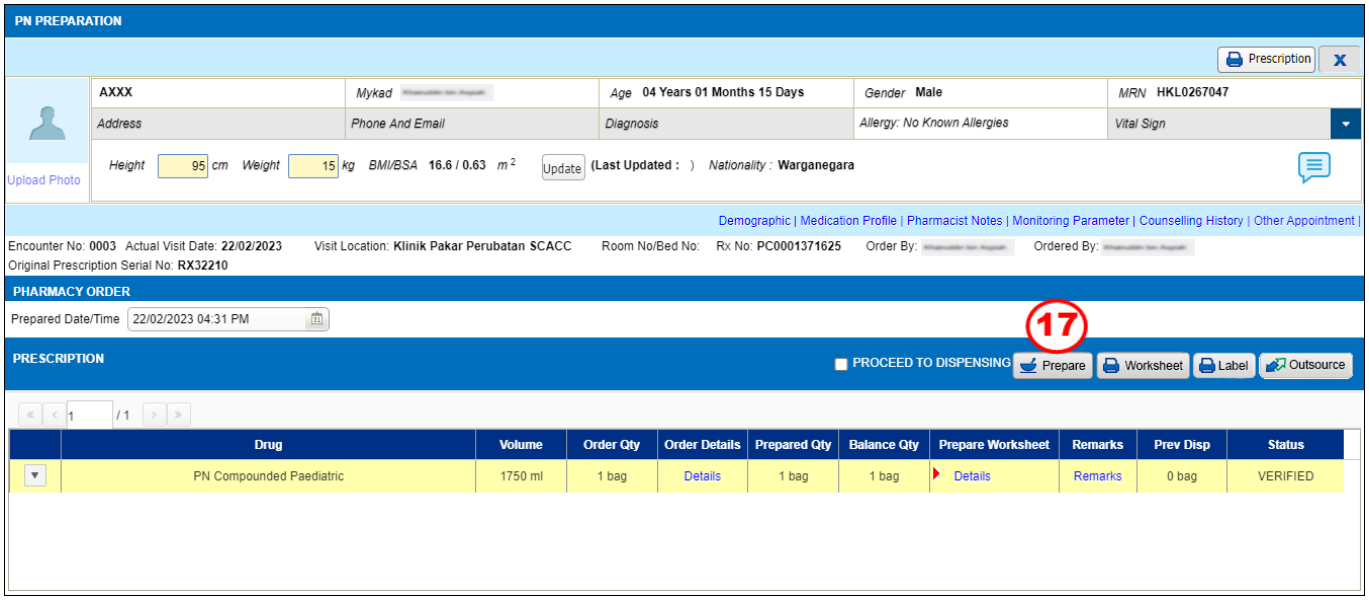


Figure 4.6-13 PN Preparation

STEP 17

Click on the Prepare button to prepare PN order

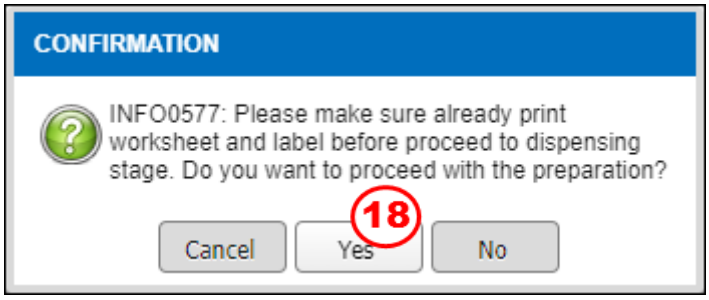


Figure 4.6-14 Confirmation Alert Message

STEP 18

Click on the Yes button to confirm prepare order

Note

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

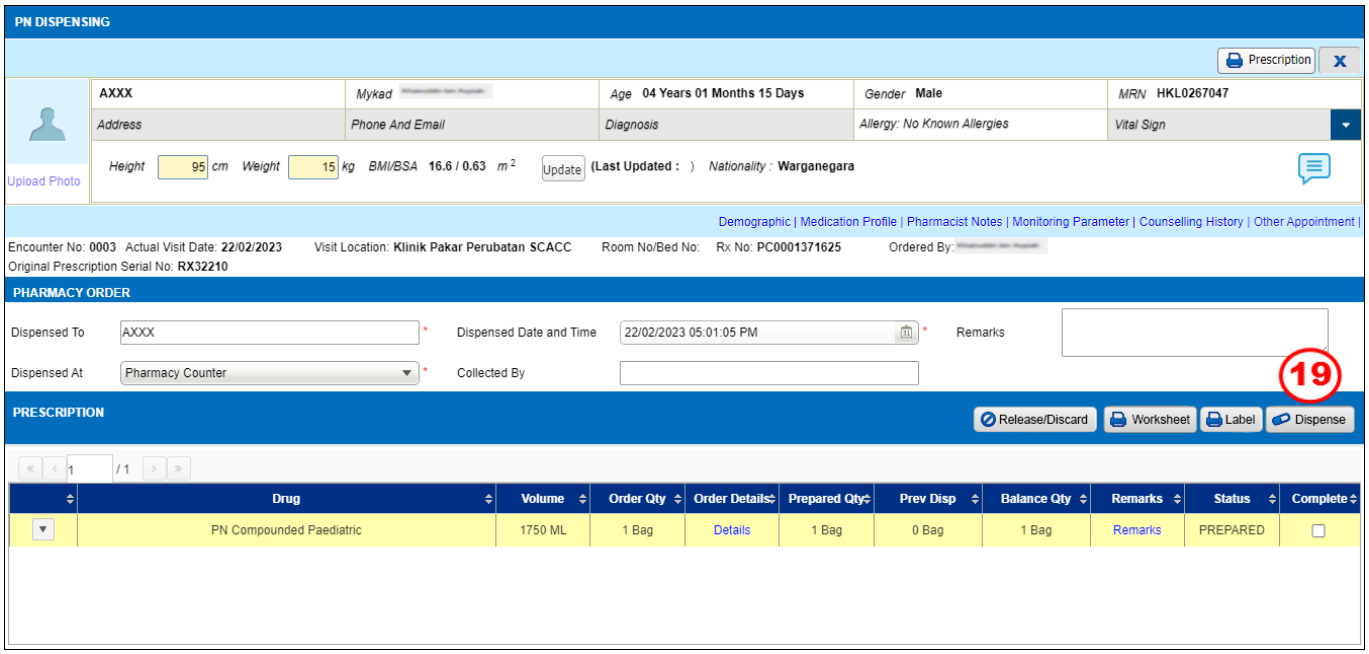


Figure 4.6-15 PN Dispensing

STEP 19

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

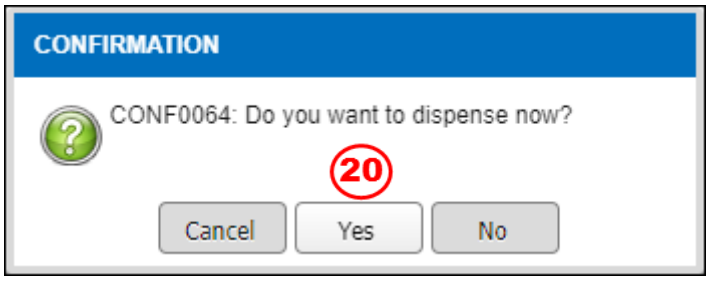


Figure 4.6-16 Confirmation Alert Message

STEP 20

Click on the Yes 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

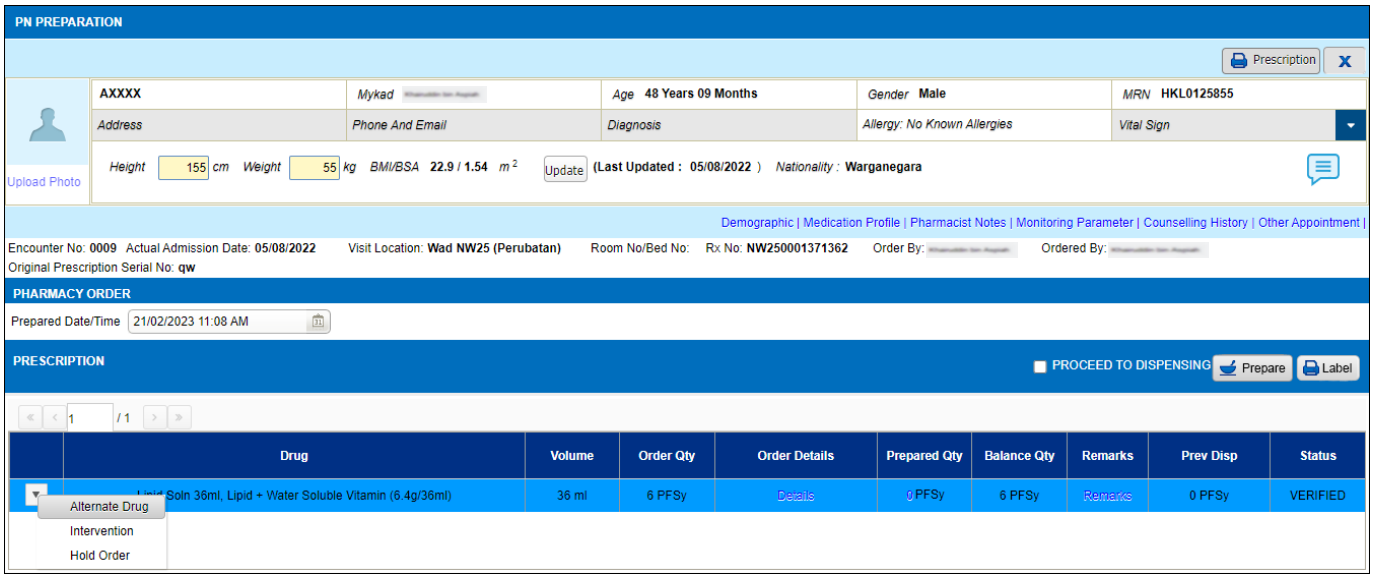


Figure 4.7-1 PN Preparation

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.*

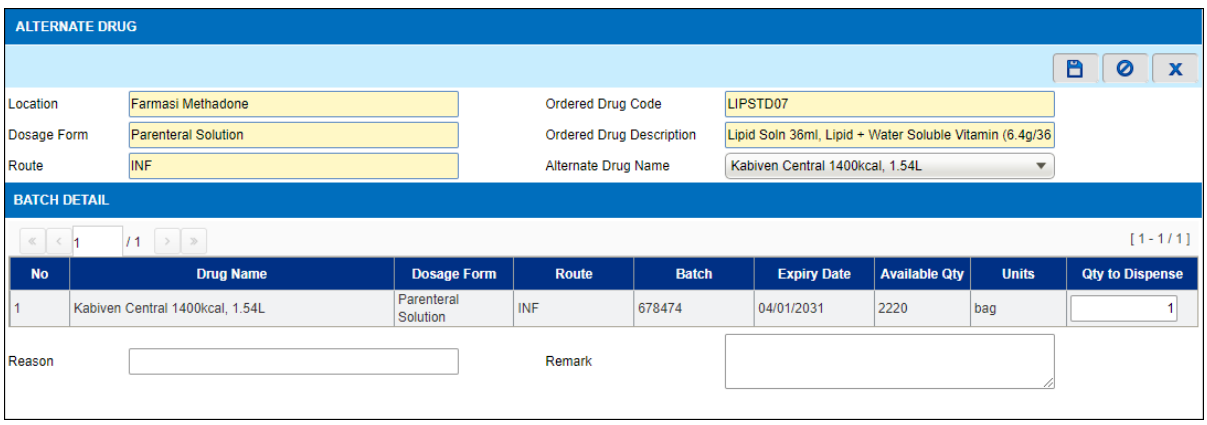


Figure 4.7-2 Alternate Drug

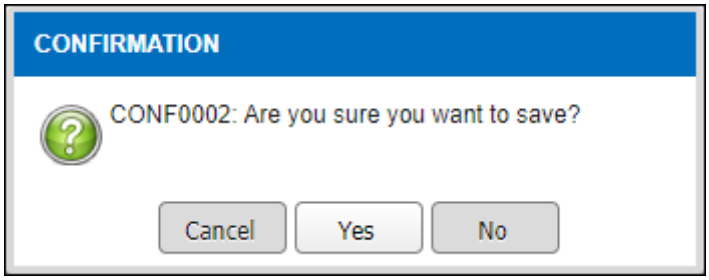


Figure 4.7-3 Confirmation Alert Message

Note

Click on the Yes *button to confirm save record.*

4.8 Intervention

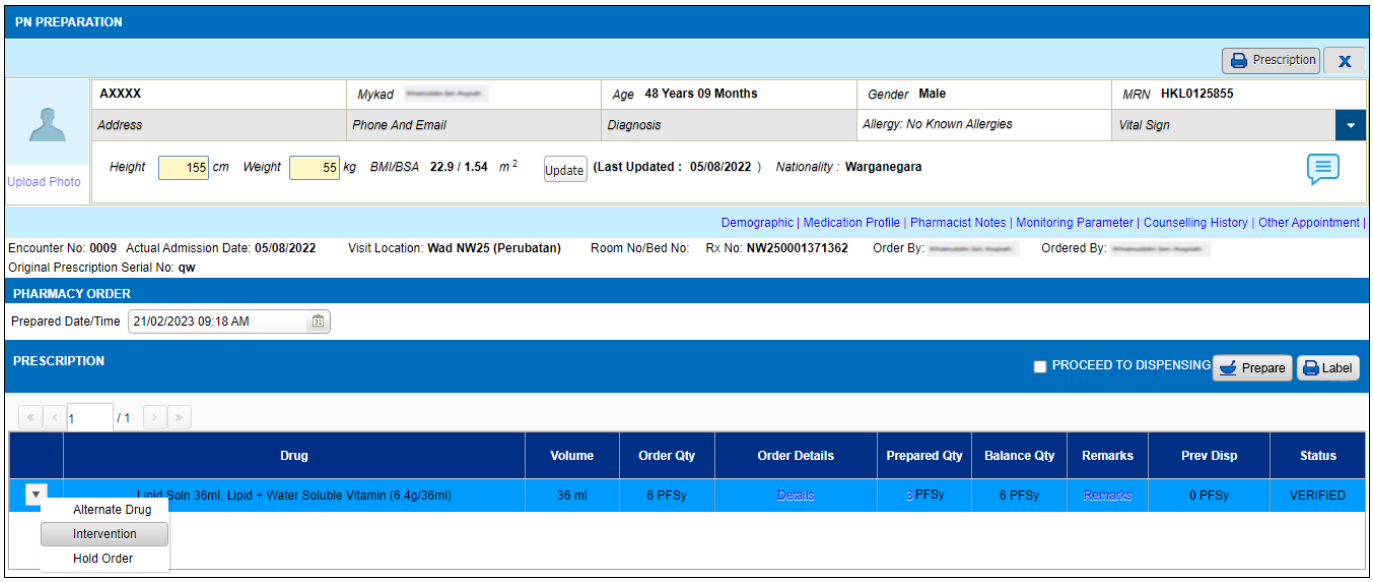


Figure 4.8-1 PN Preparation

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:*
  a) Intervention Reason
  b) Modify Order
  c) 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.*

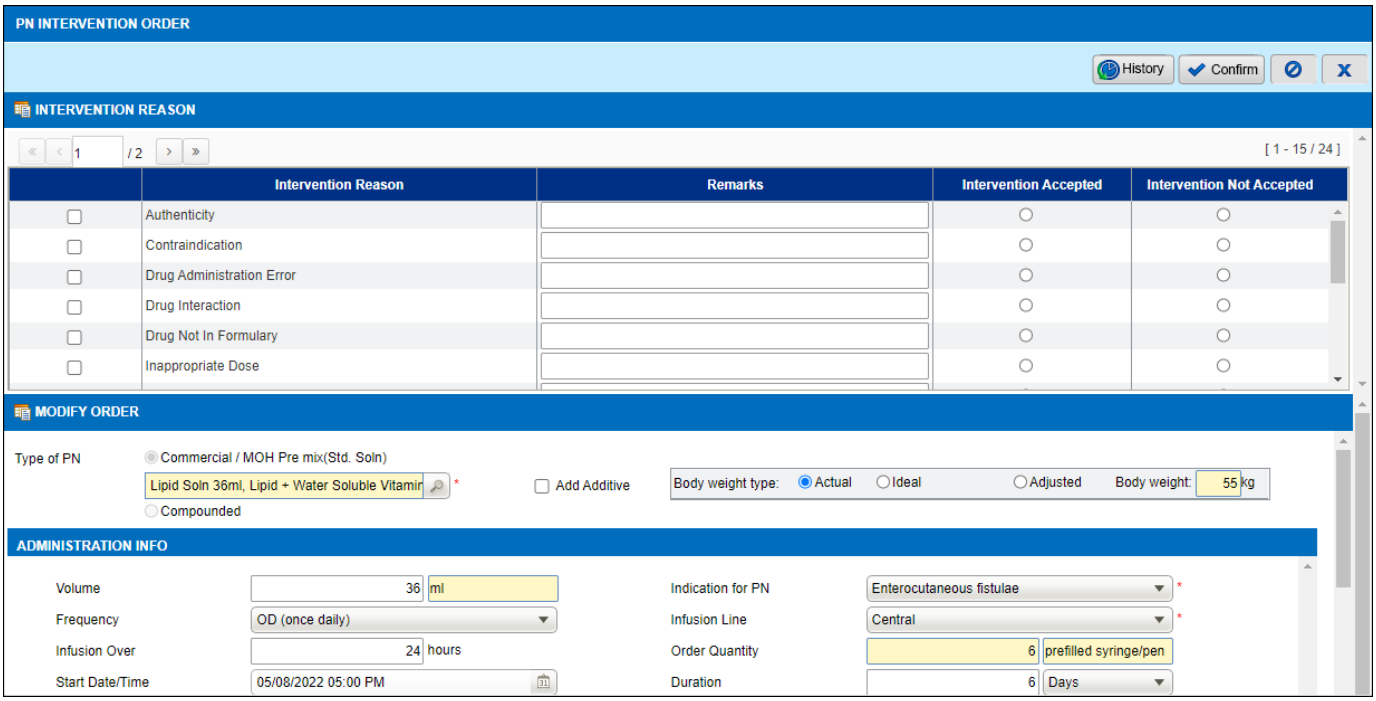


Figure 4.8-2 PN Preparation Intervention

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*

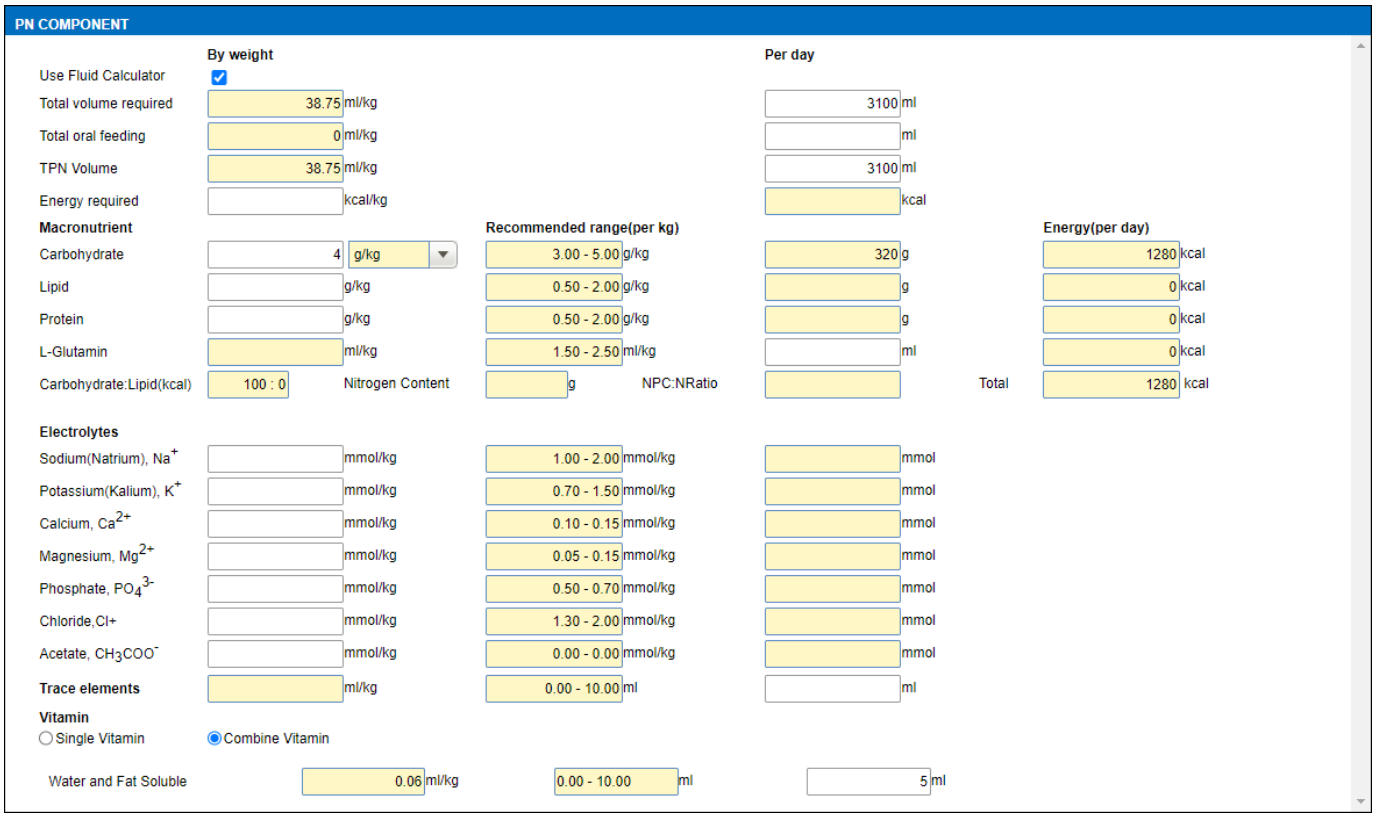


Figure 4.8-3 PN Component Intervention

- *Click on the* *button to update back prescription details.*

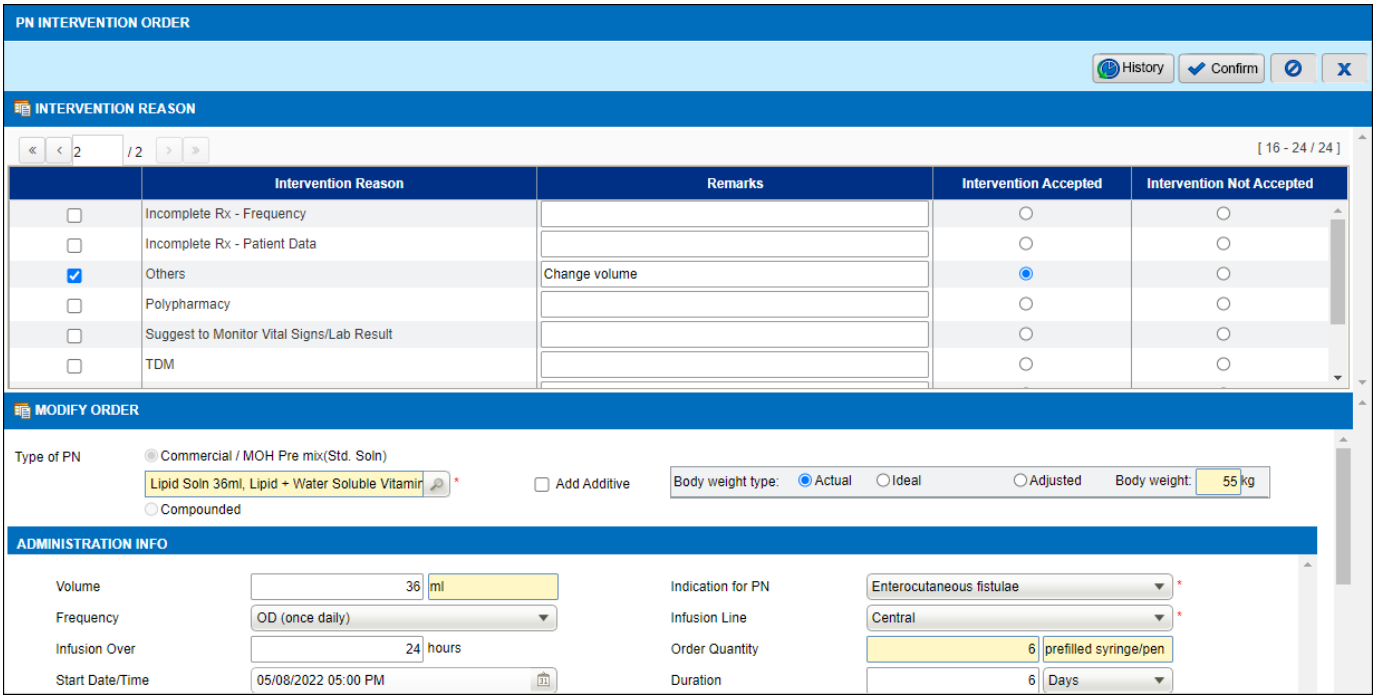


Figure 4.8-4 PN Intervention Order

Note

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

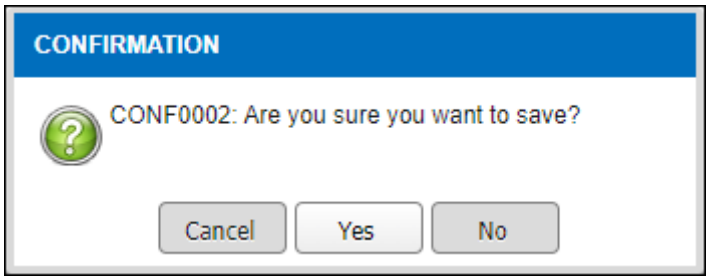


Figure 4.8-5 Confirmation Alert Message

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

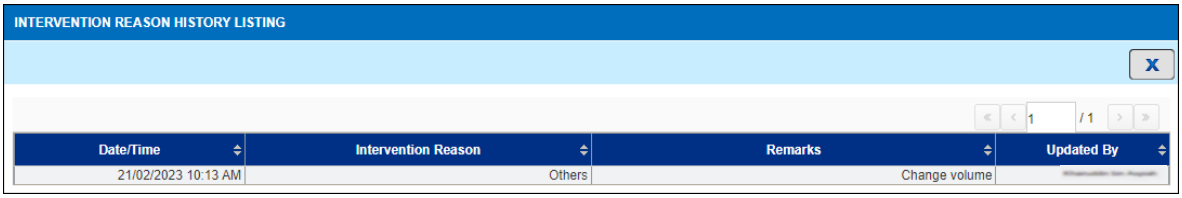


Figure 4.8-6 Intervention Reason History

4.9 Hold/Resume PN Order

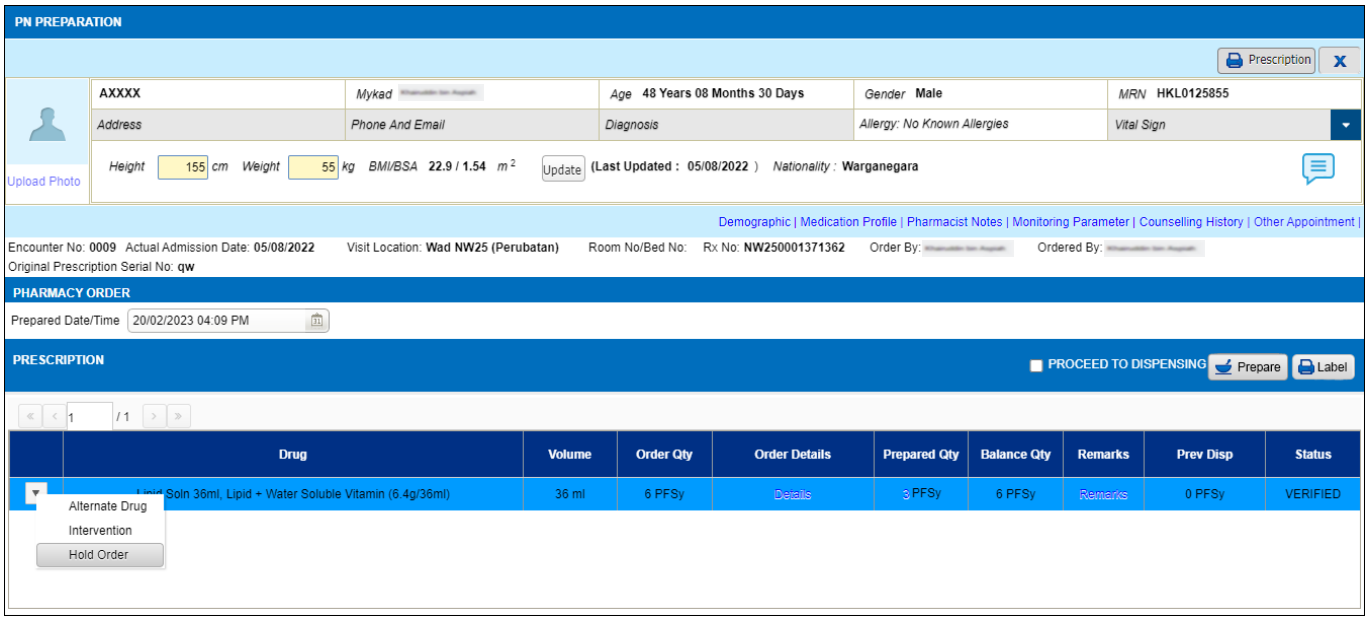


Figure 4.9-1 PN Preparation

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

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

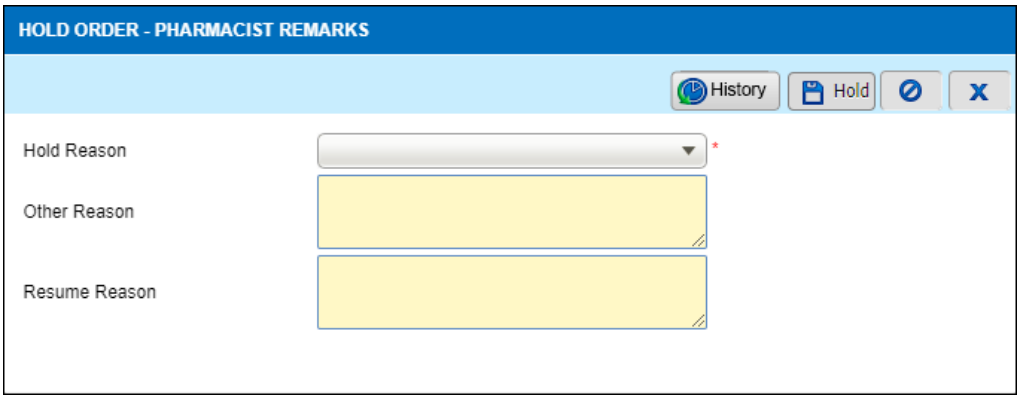


Figure 4.9-2 Hold Order – Pharmacist Remarks

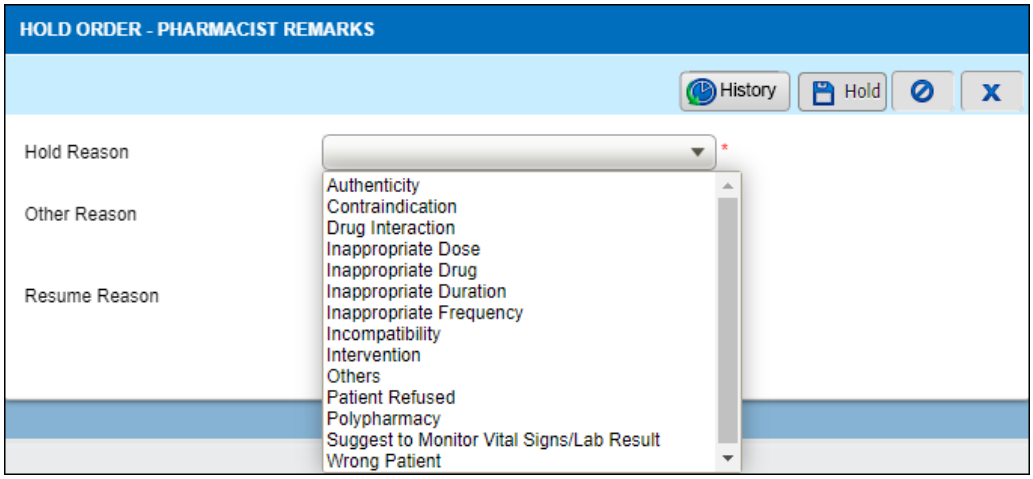


Figure 4.9-3 Hold Order – Pharmacist Remarks

Note

- *Click on the* Hold *button to hold order.*
- *Once click on hold order alert message will be shown in Figure 4.9-4*

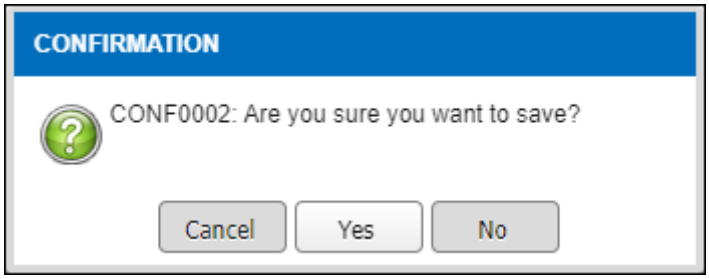


Figure 4.9-4 Confirmation Alert Message

- *Click on the* Yes *button to confirm save record.*
- *The order status will appear as* ***Verified Hold.***

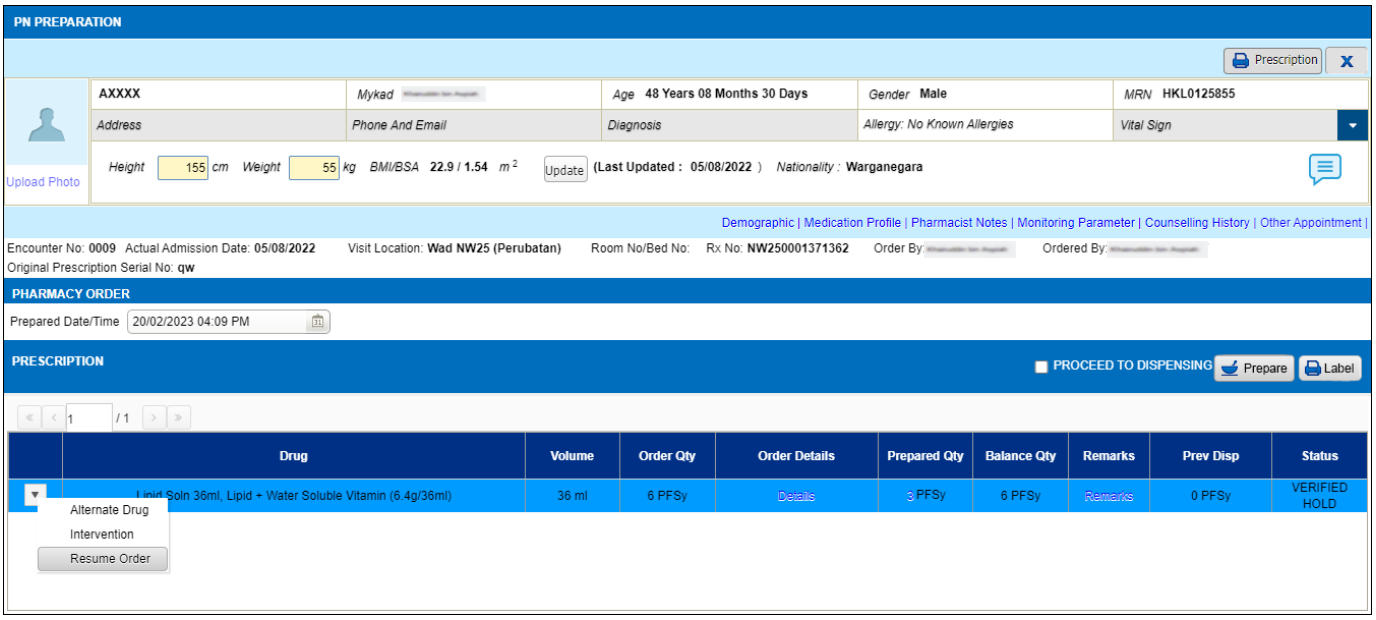


Figure 4.9-5 PN Preparation

Note

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

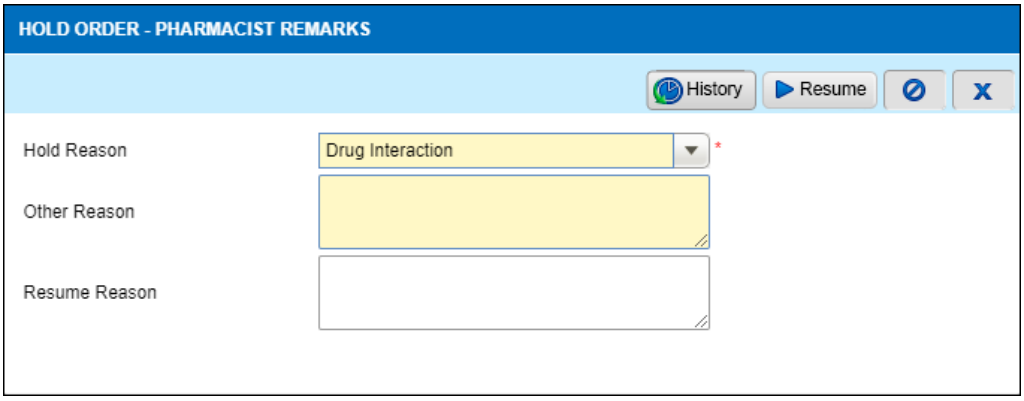
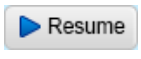


Figure 4.9-6 Hold Order-Pharmacist Remarks

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

- *Click on the* *button to close window*

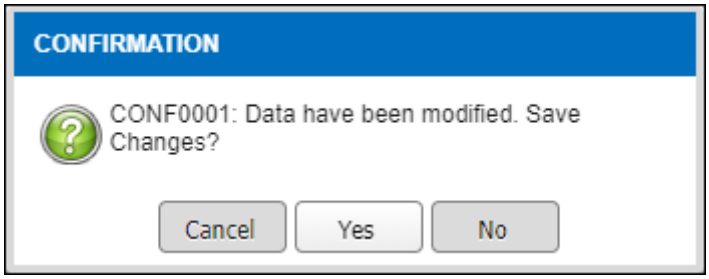


Figure 4.9-7 Confirmation Alert Message

Note

- *Click on the* Yes *button to confirm save record.*
- *Click on the* History *button as per Figure 4.9-6 to view history of hold order reason history listing 4.9-8.*
- *Click on the* X *button to close Hold Order Reason History listing screen.*

Figure 4.9-8 Hold Order Reason History Listing

5.0 Manage Prescription

5.1 Cancel/Stop Order

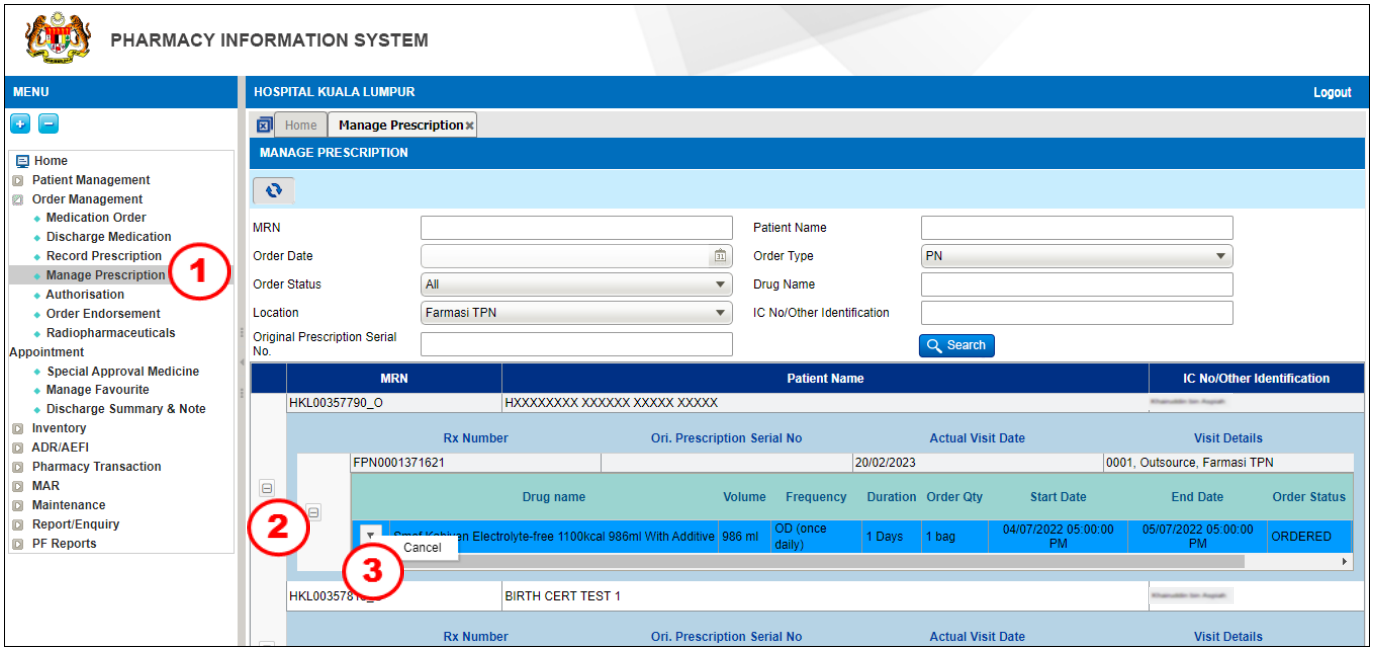


Figure 5.1-1 Manage Prescription - Stop/Cancel Order

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 presciber 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) IC No/Other Identification*
  - *i) Original Prescription Serial No*

STEP 2

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

STEP 3

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

Note

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

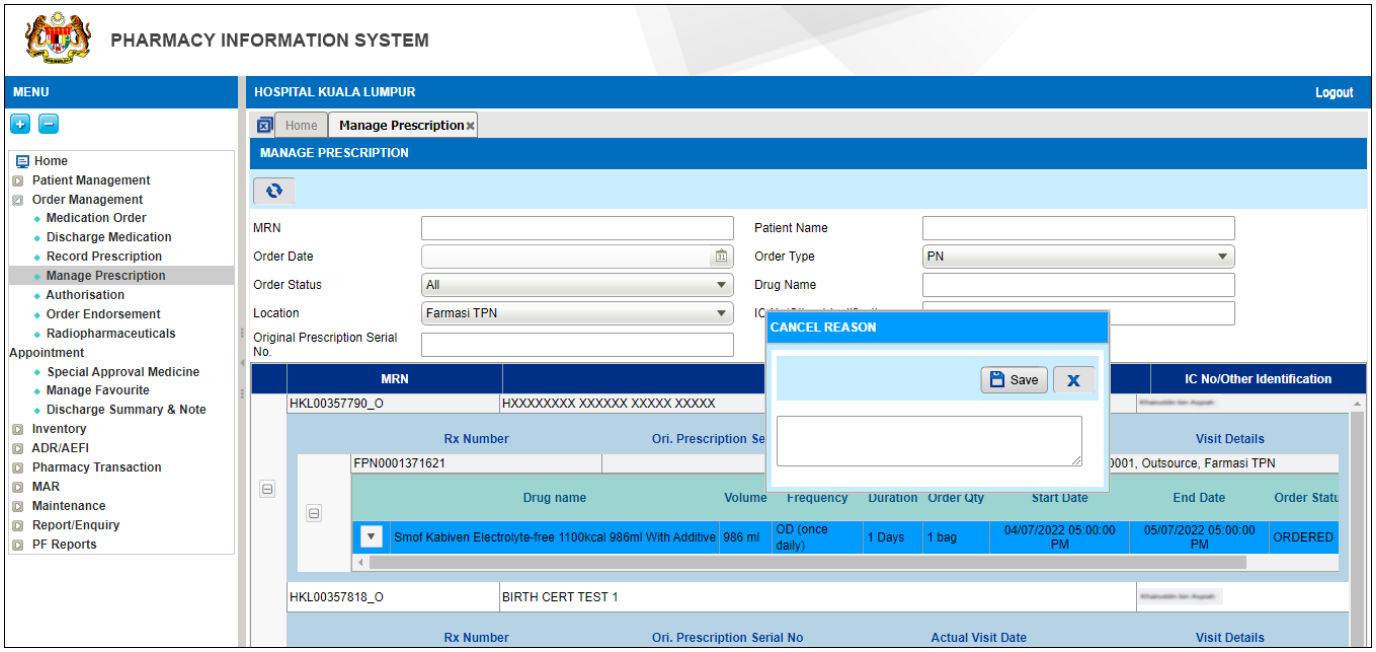


Figure 5.1-2 Cancel Reason

6.0 Release/Discard Batch

Note

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

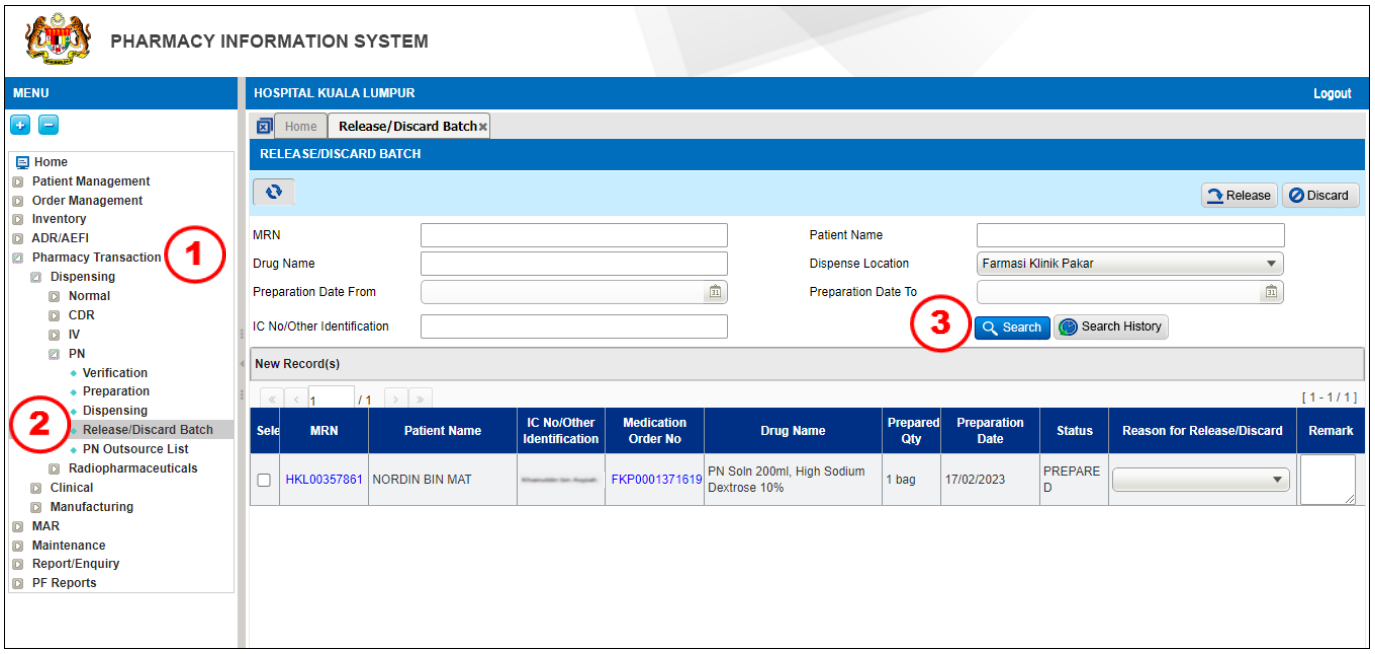


Figure 6.0-1 Release/Discard Batch Listing Page

STEP 1`
Click on 'Pharmacy Transaction' menu follow by 'Dispensing' sub menu and select 'PN'

STEP 2
Click on 'Release/Discard Batch' function

Note
Search patient record based: -

No	Field	Description	Remark
a	MRN	Patient Medical Record Number	Search option: • Type the MRN either full or partial: *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
e	Preparation Date From	Preparation Date From	Able to filter and search patient by preparation date from
f	Preparation Date To	Preparation Date To	Able to filter and search patient by preparation date to
g	IC No/Other Identification	IC Number/Other Identification	Able to filter and search patient name by IC number or other identification

Table 6.0-1 Patient Record Search

STEP 3

Click on the Search button to search patient

Note

- *Search result of patient record list will be displayed:*
  - *MRN*
  - *Patient Name*
  - *IC No/Other Identification*
  - *Medication Order No*
  - *Drug Name*
  - *Prepared Qty*
  - *Preparation Date*
  - *Status*
  - *Reason for Release/Discard*
  - *Remark*

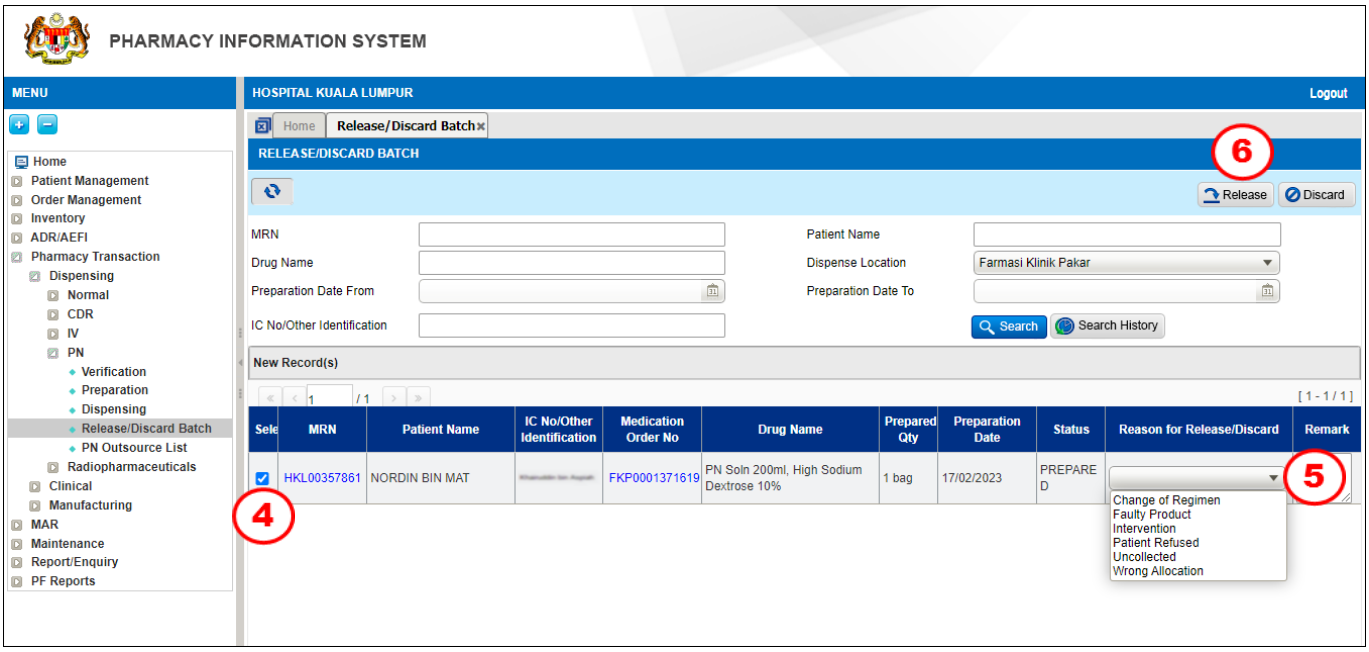


Figure 6.0-2 Release/Discard Batch

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 Release button to release batch and inventory stock will be updated

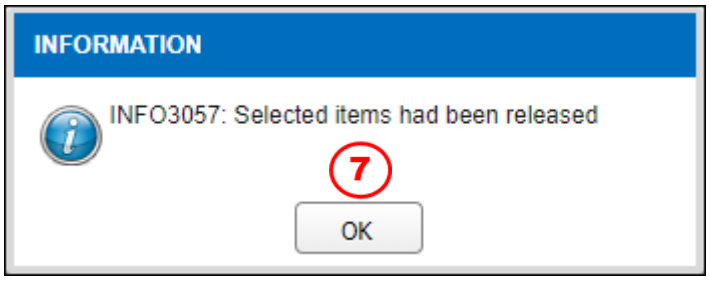


Figure 6.0-3 Alert Message

STEP 7

Click on the OK button to release order batch

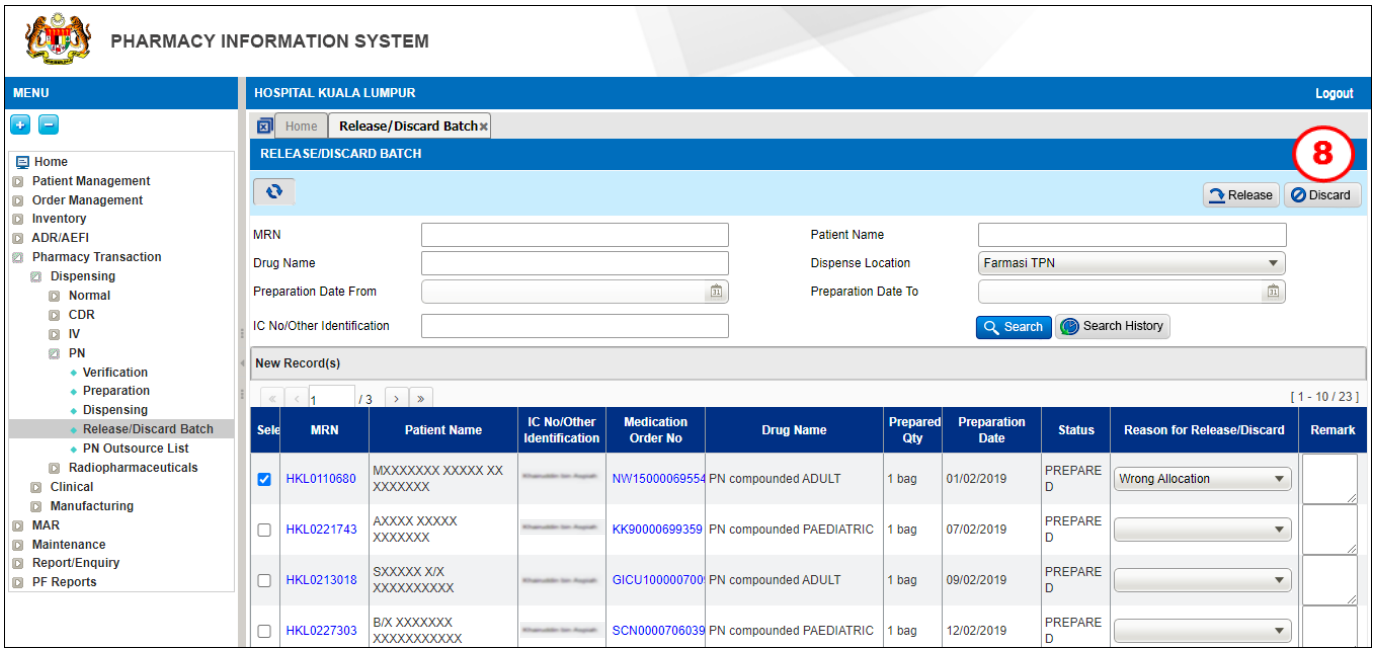


Figure 6.0-4 Release / Discard Batch

STEP 8

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

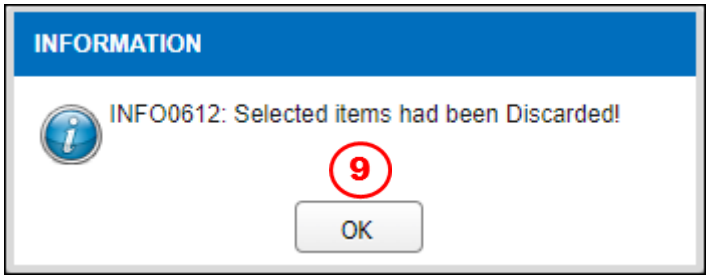


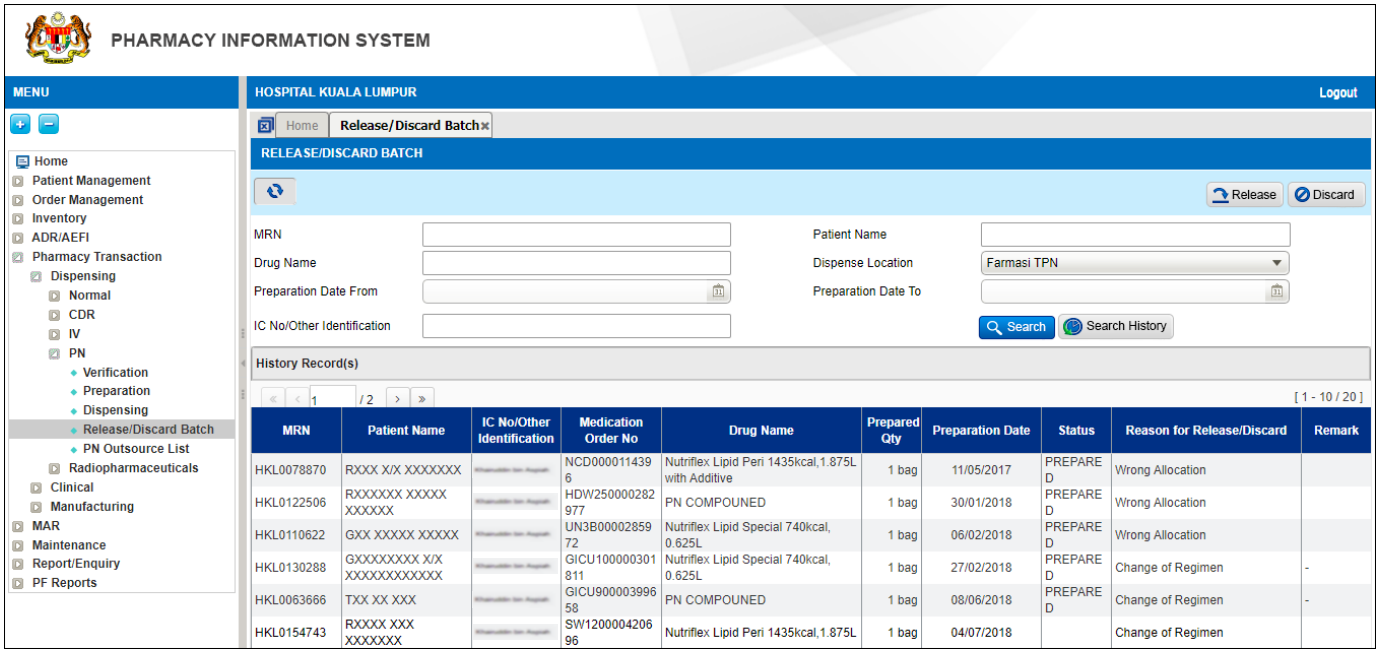
Figure 6.0-5 Information Alert Message

STEP 9

Click on the OK button to discard batch

Note

Click on the Search History *button to view release/discard history as Figure 6.0-6*



MRN	Patient Name	IC No/Other Identification	Medication Order No	Drug Name	Prepared Qty	Preparation Date	Status	Reason for Release/Discard	Remark
HKL0078870	RXXX X/X XXXXXXX		NCD0000114396	Nutriflex Lipid Peri 1435kcal,1.875L with Additive	1 bag	11/05/2017	PREPARED	Wrong Allocation	
HKL0122506	RXXXXXX XXXXX XXXXXX		HDW2500002829 77	PN COMPOUNED	1 bag	30/01/2018	PREPARED	Wrong Allocation	
HKL0110622	GXX XXXXX XXXXX		UN3B0000285972	Nutriflex Lipid Special 740kcal, 0.625L	1 bag	06/02/2018	PREPARED	Wrong Allocation	
HKL0130288	GXXXXXXXX X/X XXXXXXXXXXX		GICU1000003018 11	Nutriflex Lipid Special 740kcal, 0.625L	1 bag	27/02/2018	PREPARED	Change of Regimen	-
HKL0063666	TXX XX XXX		GICU9000039965 8	PN COMPOUNED	1 bag	08/06/2018	PREPARED	Change of Regimen	-
HKL0154743	RXXXX XXX XXXXXXX		SW1200004206 96	Nutriflex Lipid Peri 1435kcal,1.875L	1 bag	04/07/2018		Change of Regimen	

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

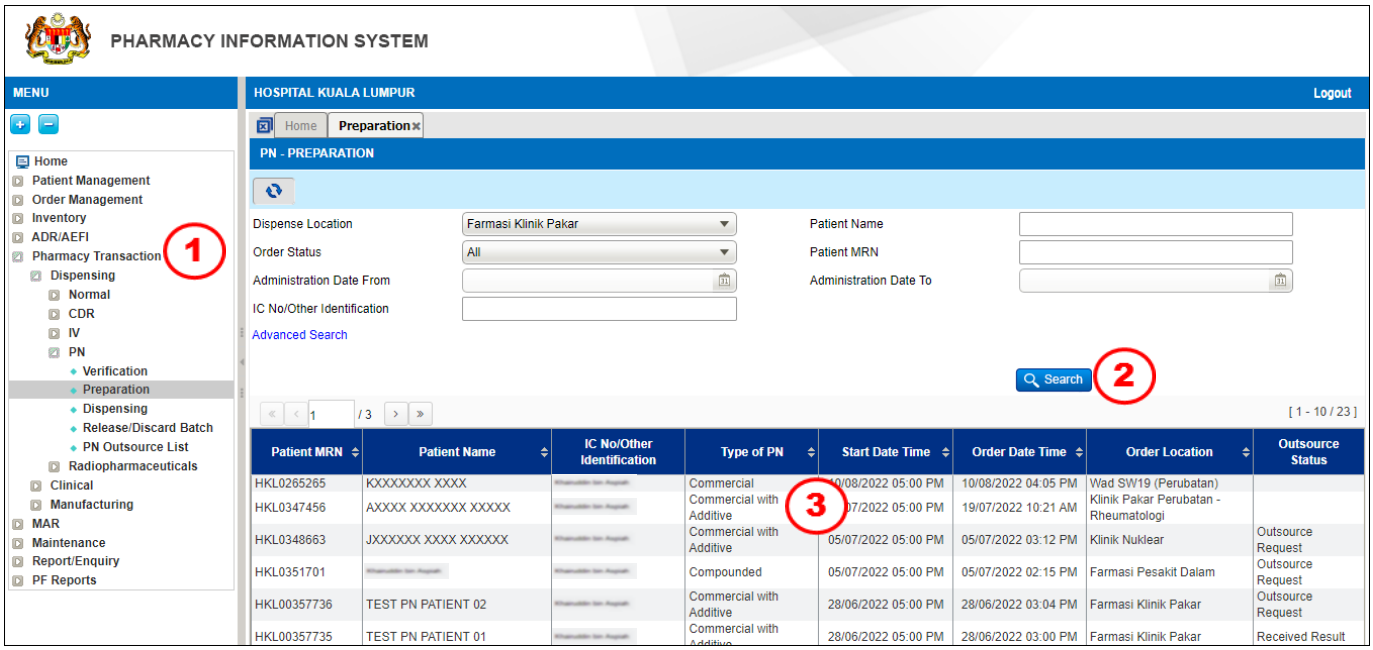


Figure 7.1-1 Preparation Listing Page

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:*
  - *a) Dispense Location*
  - *b) Patient Name*
  - *c) Order Status*
  - *d) Patient MRN*
  - *e) Administration Date From*
  - *f) Administration Date To*
  - *g) IC No/Other Identification*

- *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

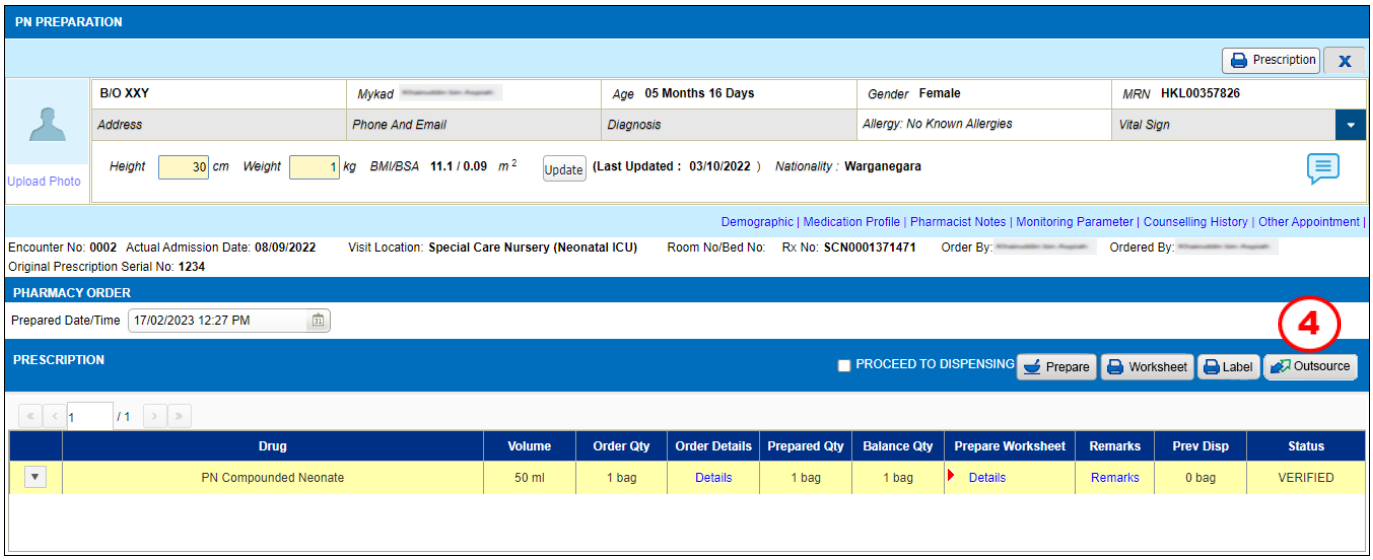


Figure 7.1-2 PN Preparation

STEP 4

Click on the Outsource button to prepare outsource product

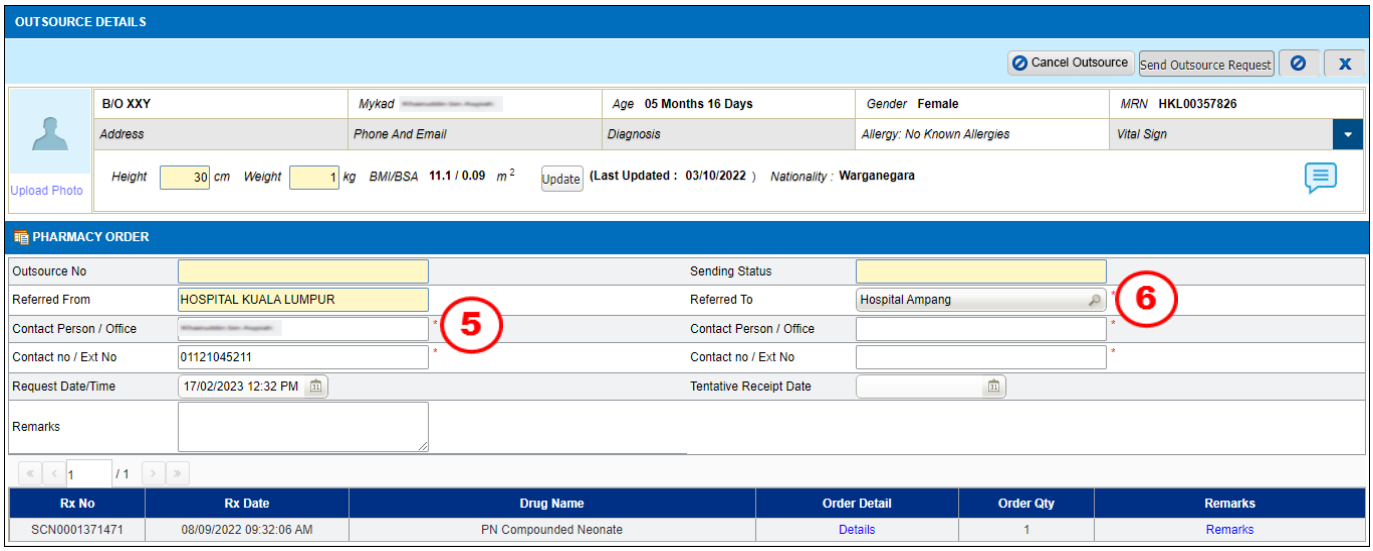


Figure7.1-3 Outsource Details

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.***

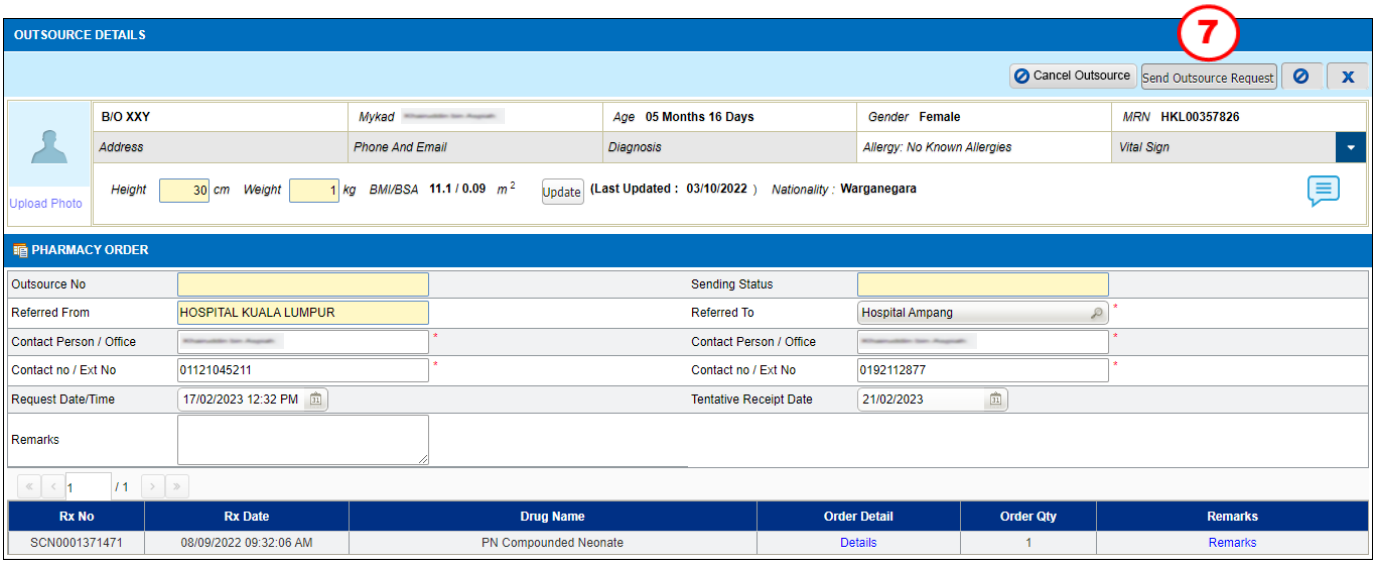


Figure 7.1-4 Outsource Details

STEP 7

Click on the Send Outsource Request button to send outsource request

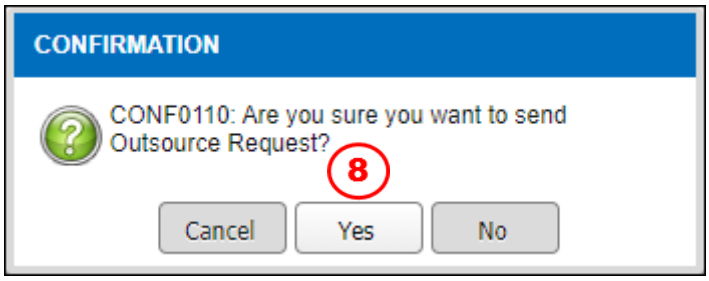


Figure 7.1-5 Send Request Alert Message

STEP 8

Click on the Yes button to send outsource request

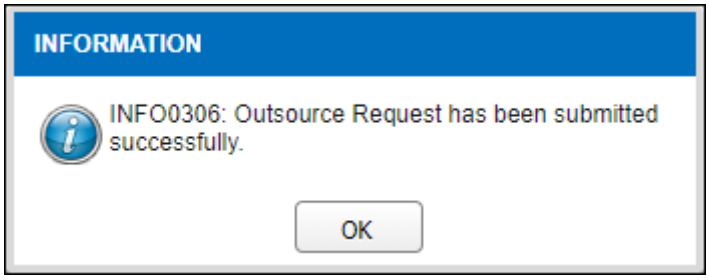


Figure 7.1-6 Information Alert Message

Note

Once outsource request successfully submitted information alert message will be appear click on OK *button to proceed*

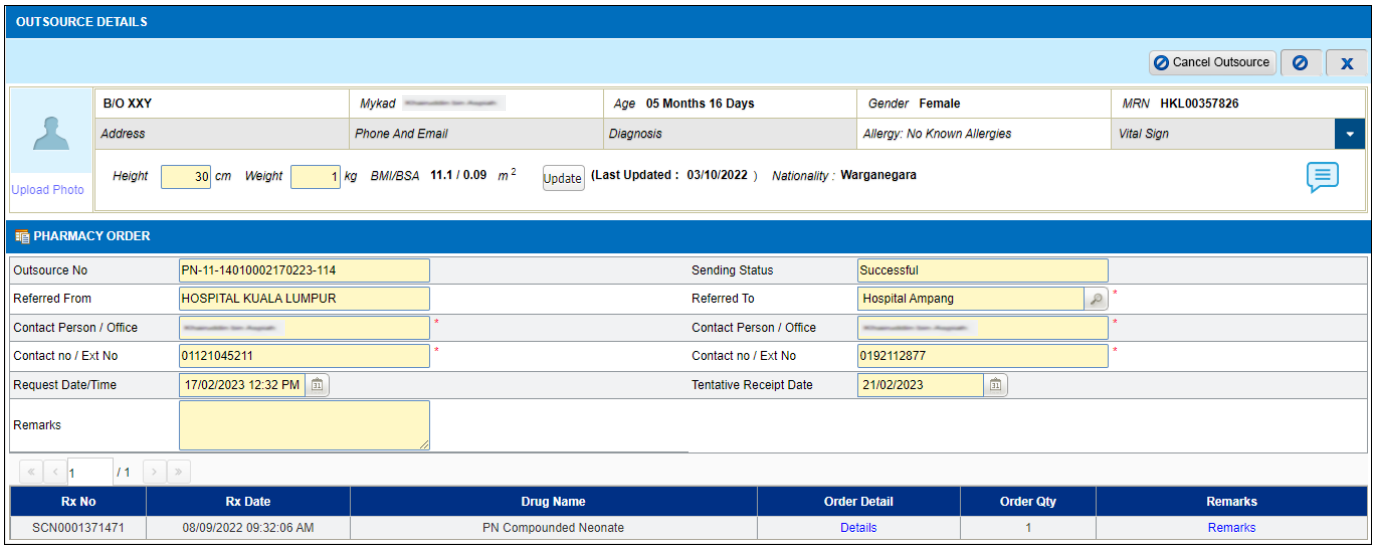


Figure 7.1-7 Outsource Details

STEP 9

Click on the X button to close outsource screen as per Figure 7.1-7

7.2 Receive Outsource

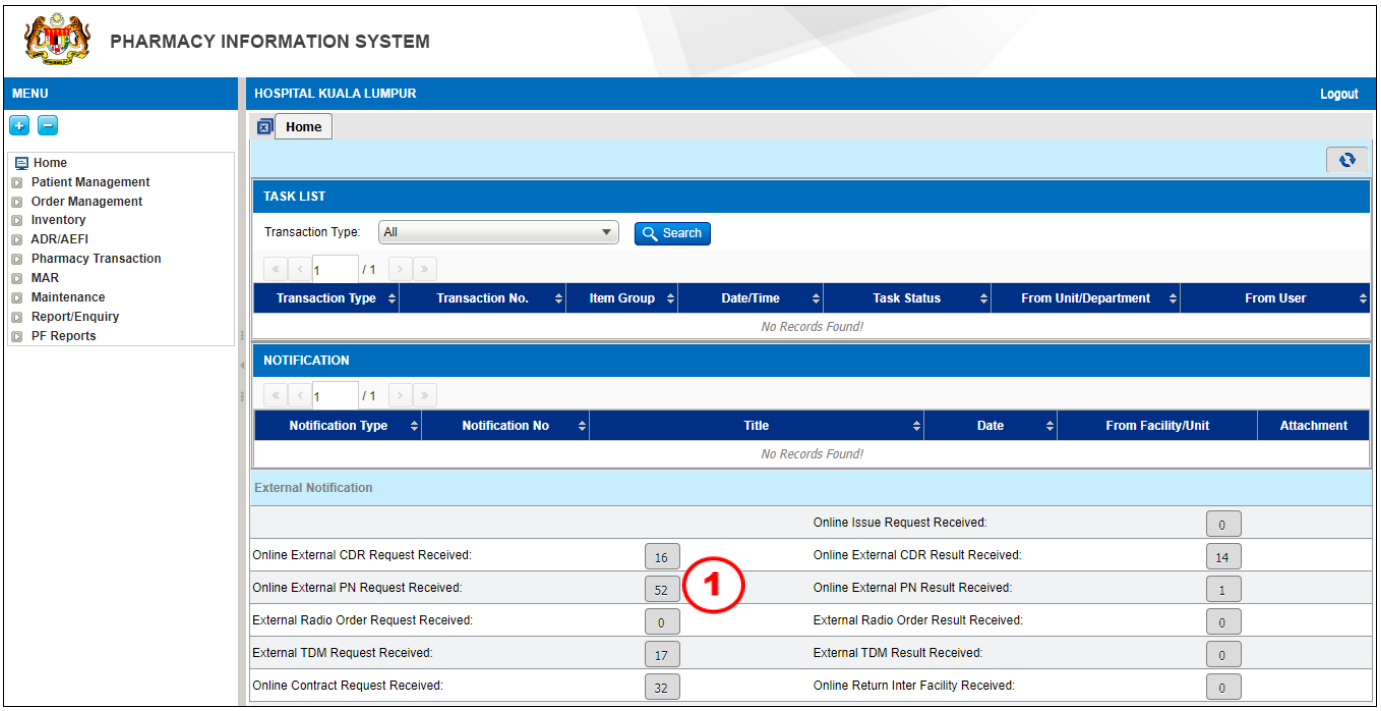


Figure 7.2-1 External Notification

STEP 1

Click on the Online External PN Request Received 52 button and Outsource Listing window will be display as Figure 7.2-1

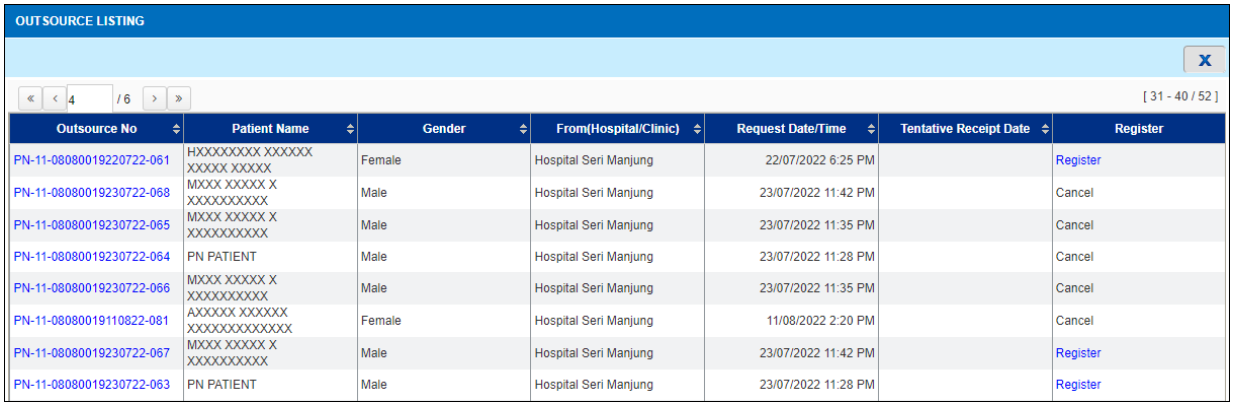


Figure 7.2-2 Outsource Listing

Note

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

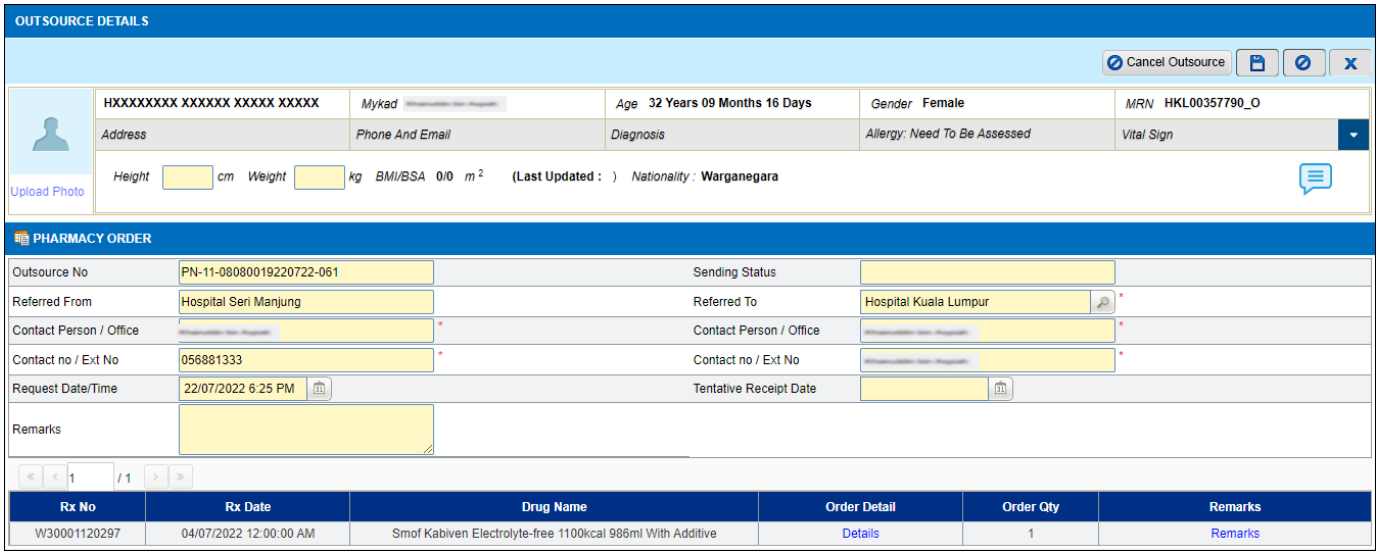


Figure 7.2-3 Outsource Details

Note

User is allowed to cancel the transaction by click on the Cancel Outsource *button*

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

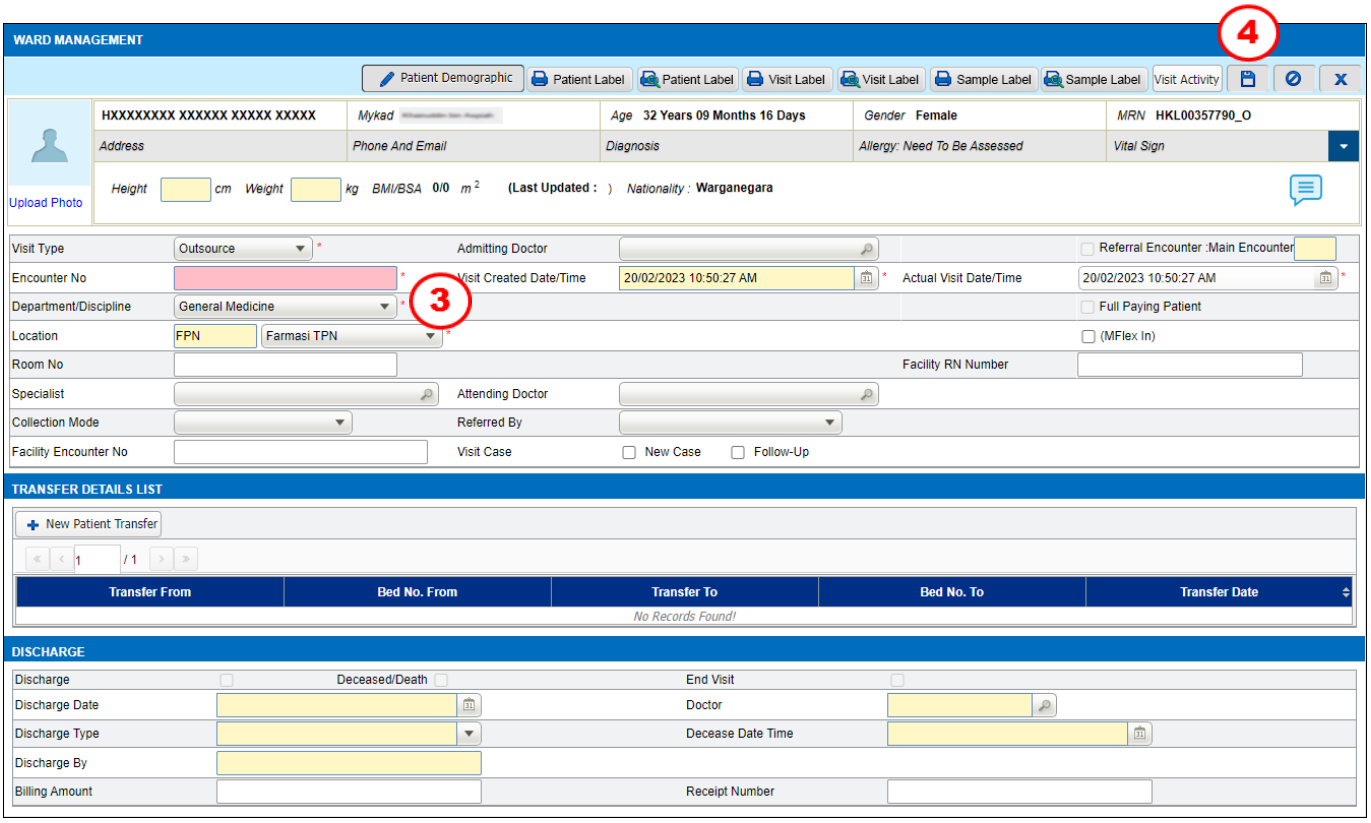


Figure 7.2-5 Ward Management

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 alert message will be shown as Figure 7.2-6*

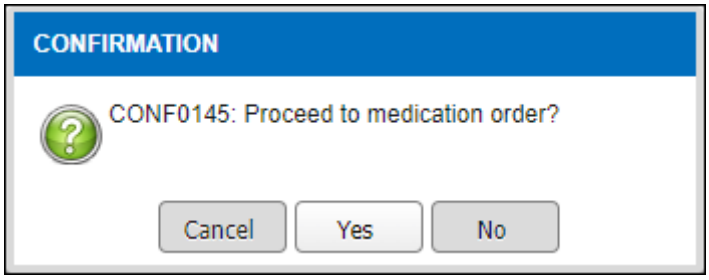
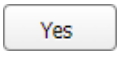


Figure 7.2-6 Alert Message

- *Click on*  *button to proceed to medication order and screen medication screen will be shown in Figure 7.2-7*

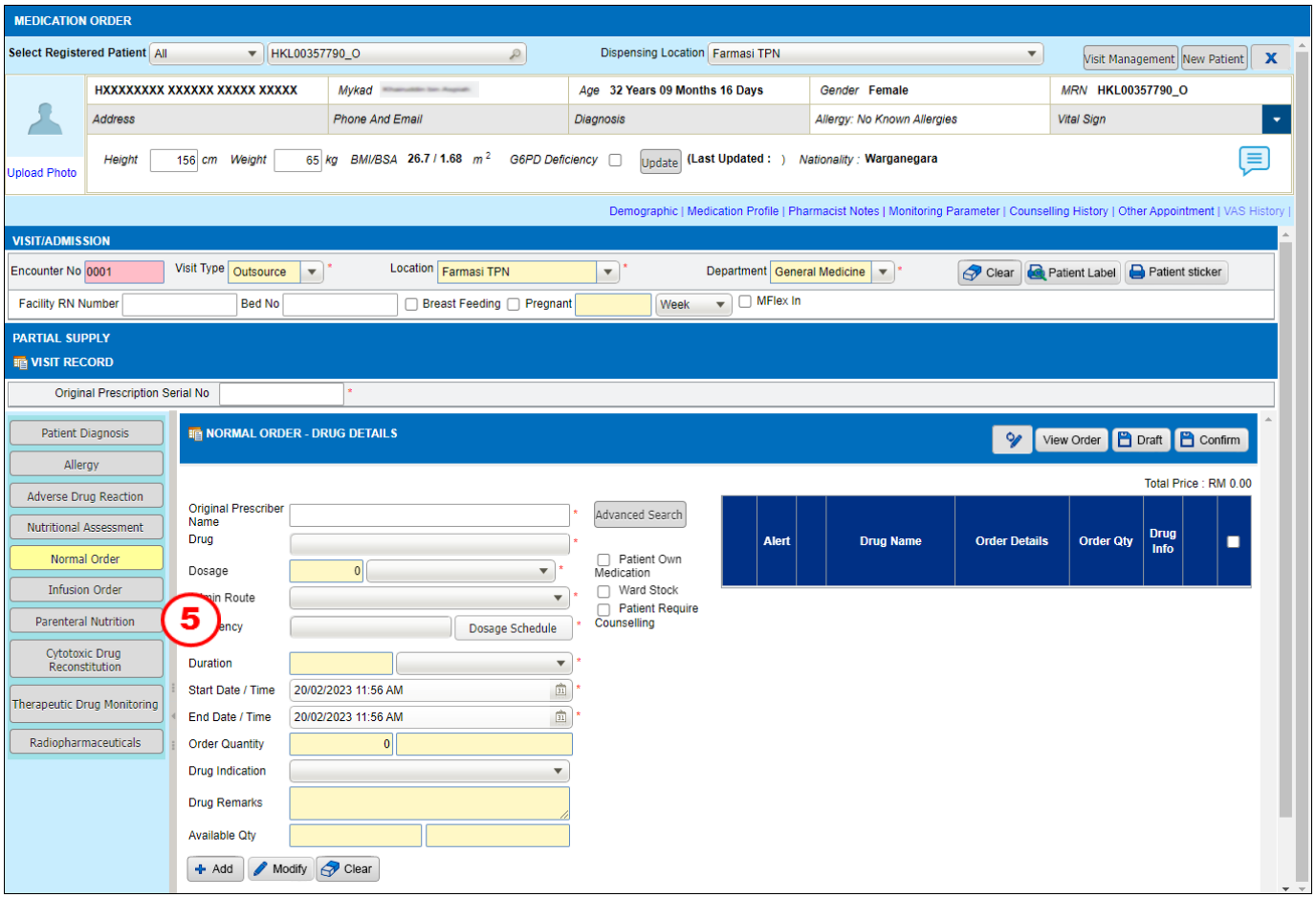
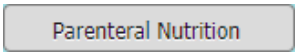


Figure 7.2-7 Medication Oder

STEP 5

Click on the 

tab button

Note

Once click on the tab, Parenteral Nutrition medication screen will be display as shown in Figure 7.2-8

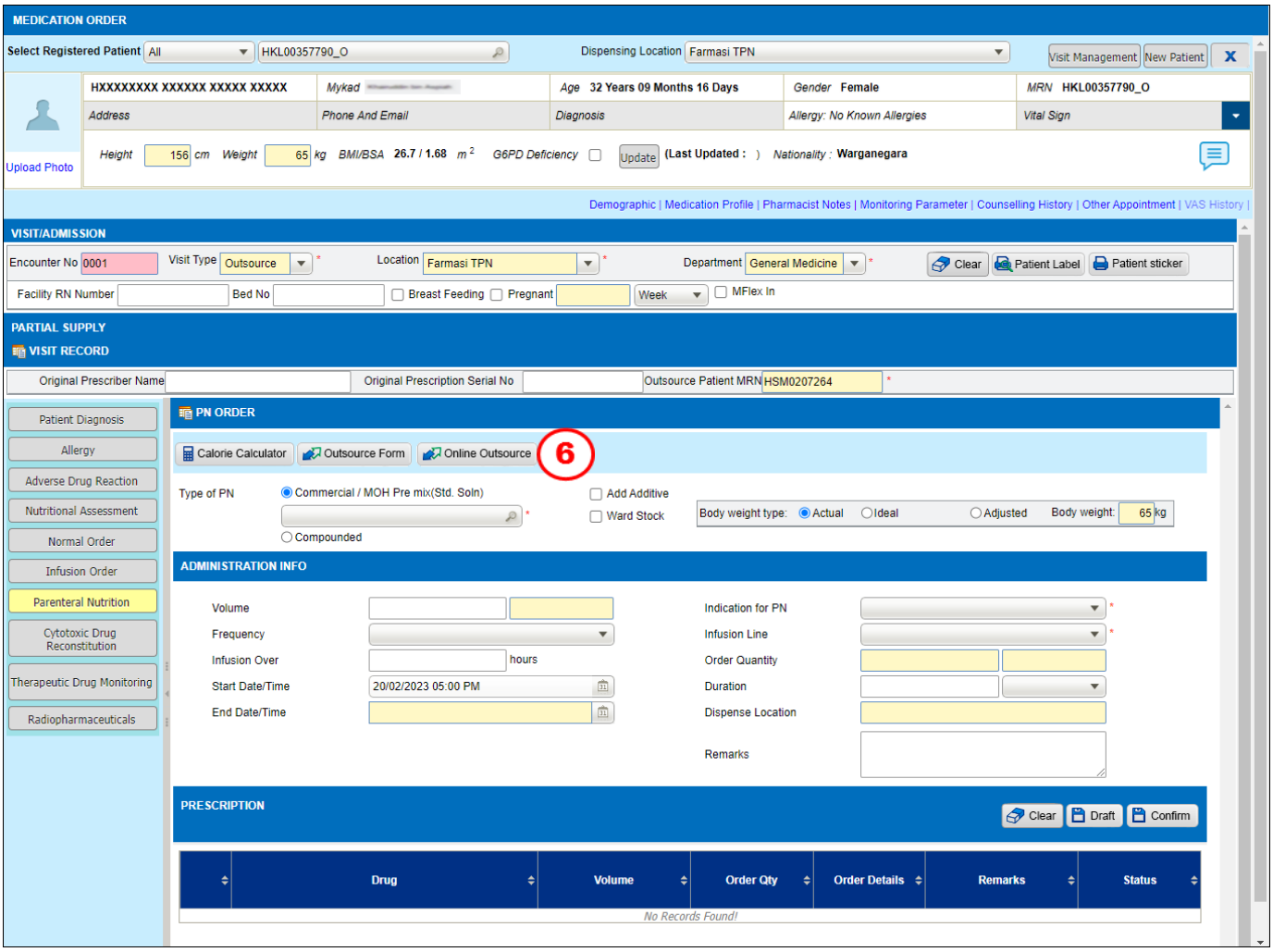


Figure 7.2-8 Medication Order

STEP 6

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

Figure 7.2-9 Outsource Listing

STEP 7

Double click on the list

Note

- *Once clicked the list alert message will be shown in Figure 7.2-10*

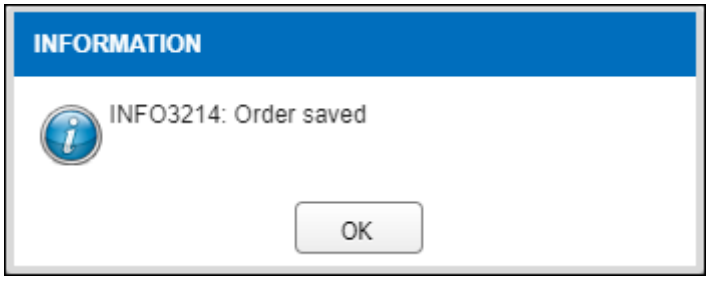


Figure 7.2-10 Alert Message

- *Click on* OK *button to proceed and PN Order will be updated as shown in Figure 7.2-11*

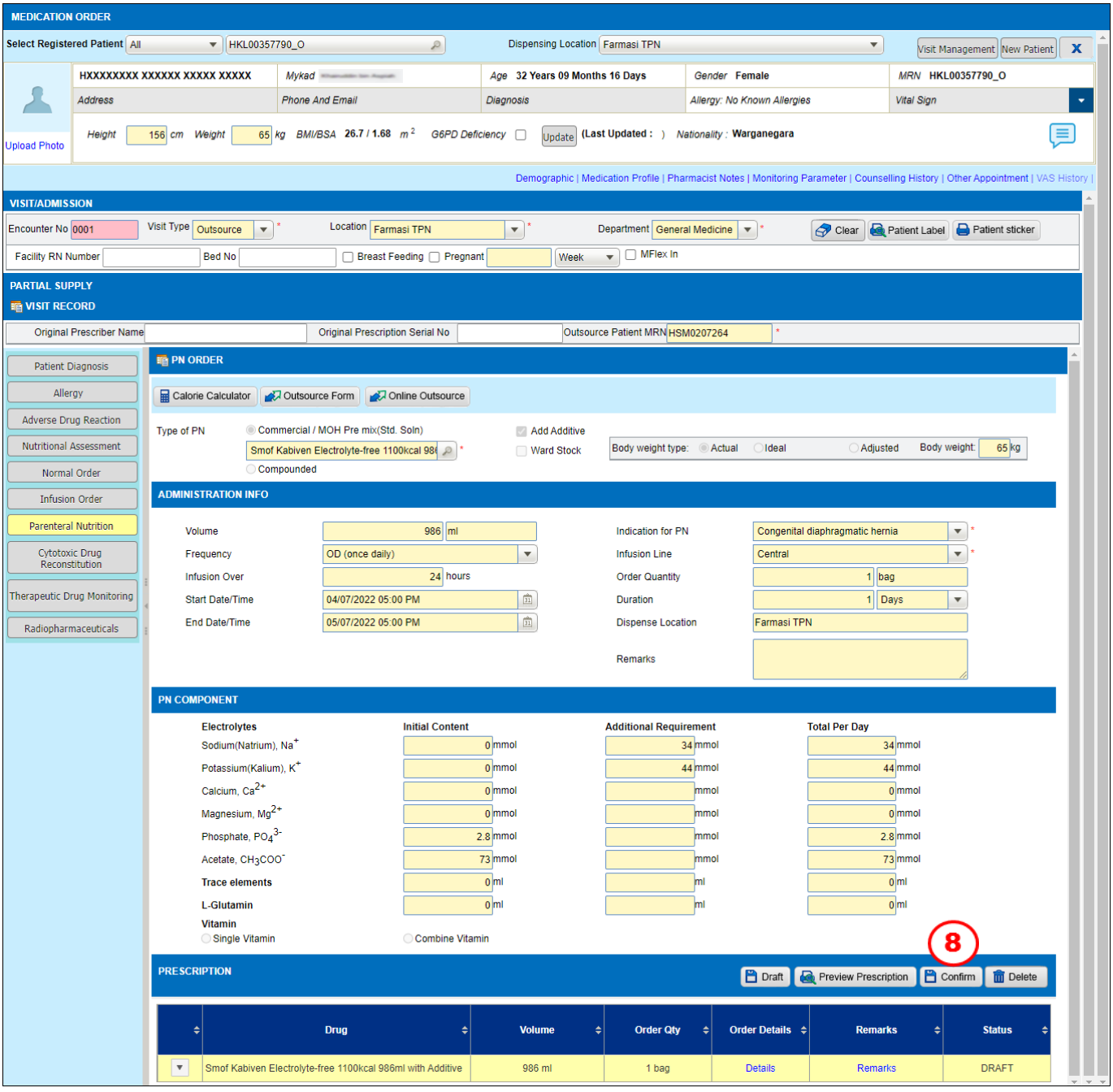


Figure 7.2-11 Medication Order

STEP 8

Click on the Confirm button to confirm the order

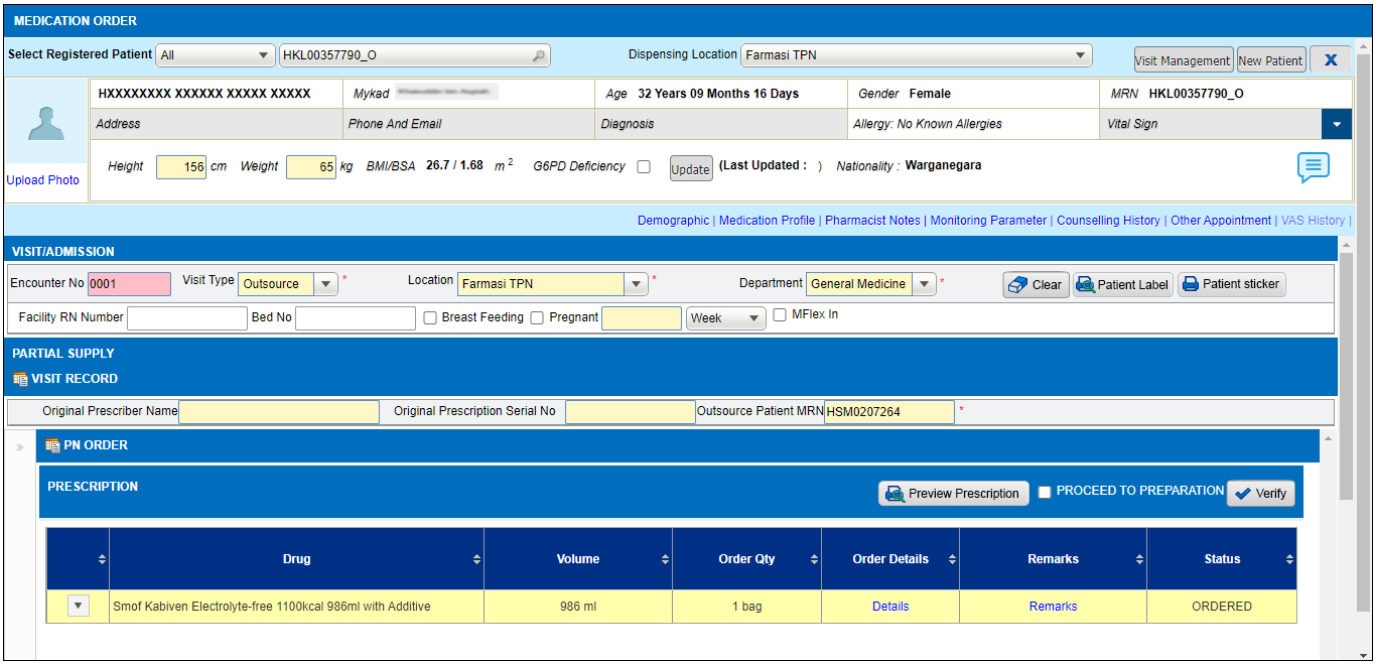


Figure7.2-12 Medication Order

Note

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

8.0 Acronyms

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

9.0 Links to Clinical Modules

No	*Module*	*PDF Links*	*No*	*Module*	*PDF Links*
1	*Inpatient*	*Click Here*	*12*	*CDR Dispensing*	*Click Here*
2	*CDR Order*	*Click Here*	*13*	*Methadone Dispensing*	*Click Here*
3	*TDM Order*	*Click Here*	*14*	*PN Dispensing*	*Click Here*
4	*PN Order*	*Click Here*	*15*	*Order Management*	*Click Here*
5	*IV Order*	*Click Here*	*16*	*Patient Management*	*Click Here*
6	*Prepacking*	*Click Here*	*17*	*Radiopharmaceuticals*	*Click Here*
7	*Galenical*	*Click Here*	*18*	*Outpatient*	*Click Here*
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