



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

---

**Full Based**

**User Manual  
Parenteral Nutrition Order**

<b>Version</b>	<b>: 9<sup>th</sup> Edition</b>
<b>Document ID</b>	<b>: FB_U.MANUAL_OM PN</b>



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*Reference ID : FB\_U.MANUAL\_OM PN-9<sup>th</sup> EDITION*

*Application reference: PhIS & CPS v2.0.1*



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## 1.0 Introduction

### 1.1 Overview of PhIS

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

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

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

### 1.2 Purpose and Objectives

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

User will understand the following activities in detail:

- Nutritional Assessment
- Parenteral Nutritional Order

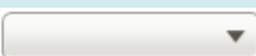
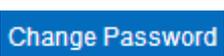
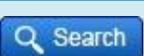
### 1.3 Organised Sections

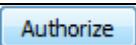
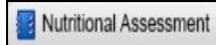
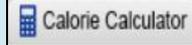
These are the sections within this document:

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

## 2.0 Application Standard Features

### 2.1 PhIS Legend

	Login to PhIS		Logout from PhIS
	Reset Login Screen		Expand Menu
	Display Home Tab		Expand Module
	Close All Open Tabs		Refresh Screen
	Add/Create New Record		Show Help
*	Mandatory Field		Calendar Icon
	Close Window		Radio Button
	Edit Record		Cancel
	Save		Add Item to the list
	Dropdown Box		Automatically Display/Retrieve Box
	Change Login Password		Delete Record
	Collapse Menu		Delete Item from the list
	Collapse Module		Empty Text Box
	Search Record		Search Icon
	Print	<input type="checkbox"/>	Checkbox

Parenteral Nutrition Order Module Legend			
 Clear	Clear Prescription Information	 Refresh Prescription	Display Prescription
 Authorize	Authorisation Approval	 Nutritional Assessment	Nutritional Assessment
 Endorse	Endorsement Order	 Calorie Calculator	Calculate Patient's Calorie

**Note**

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

### 3.0 Parenteral Nutrition Order

#### Overview

Parenteral nutrition (PN) is a vital therapeutic modality for neonates, children and adults for a number of indications used in a variety of settings. Appropriate use of this complex therapy maximizes clinical benefit while minimizing the potential risk for adverse events. The Safe Practices for PN addressed the standardization of practices surrounding PN to improve care and to limit medication errors.

#### User Group

This module is intended for doctor, specialist and pharmacist (subject to the user assigned by the facility)

#### Functional Diagram

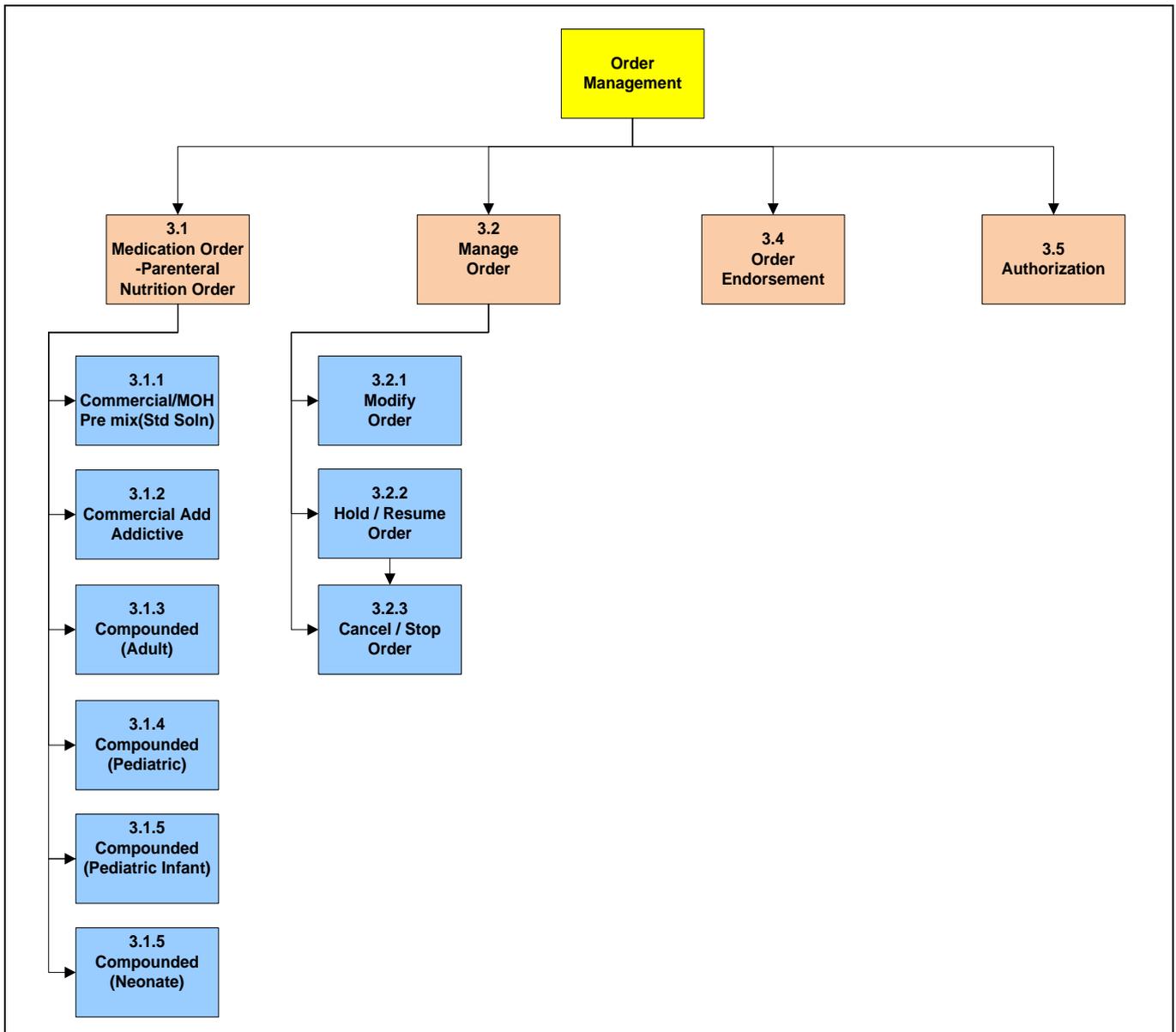


Figure 3.0-1



## Functional Description

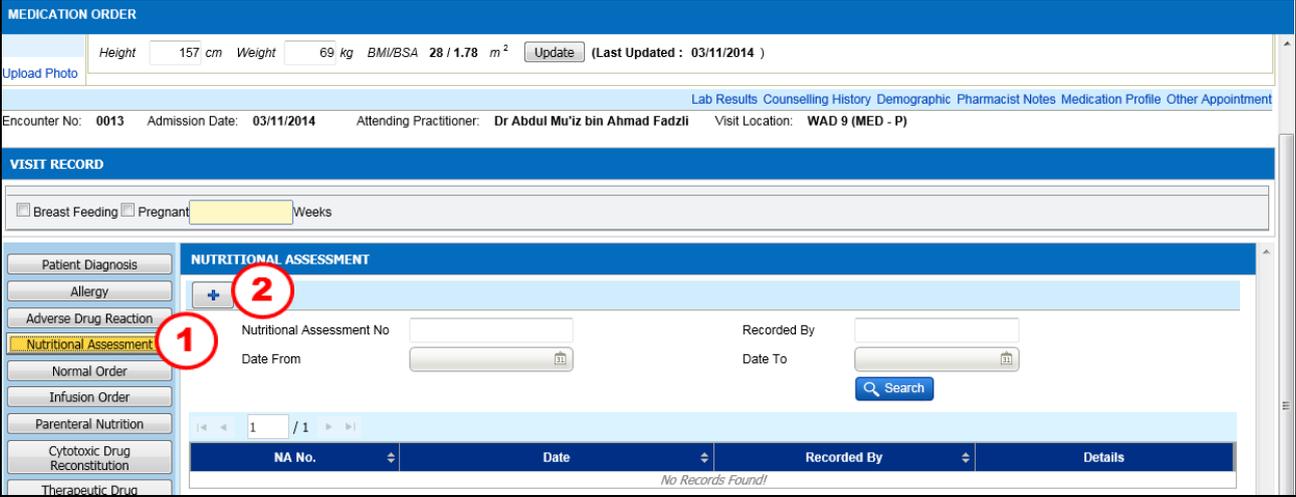
Parenteral Nutrition Order comprises of four (4) main functions:

- **Medication Order – Parenteral Nutrition Order**  
To prescribe Parenteral Nutrition order
- **Manage Order**  
To monitor patient's prescription by modifying order, stop order and tapering up/down.
- **Order Endorsement**  
To endorse the intervention made by a Pharmacist
- **Authorization**  
To approve list A/ A\*/ A/KK drug that requires authorization

### 3.1 Parenteral Nutrition Order

#### 3.1.1 Nutritional Assessment

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



The screenshot displays the 'MEDICATION ORDER' interface. At the top, patient information is shown: Height 157 cm, Weight 69 kg, BMI/BSA 28 / 1.78 m<sup>2</sup>, and an 'Update' button. Below this is a 'VISIT RECORD' section with checkboxes for 'Breast Feeding' and 'Pregnant' followed by a 'Weeks' field. A sidebar on the left contains a menu with items like 'Patient Diagnosis', 'Allergy', 'Adverse Drug Reaction', 'Nutritional Assessment' (highlighted in yellow), 'Normal Order', 'Infusion Order', 'Parenteral Nutrition', 'Cytotoxic Drug Reconstitution', and 'Therapeutic Drug'. The main area is titled 'NUTRITIONAL ASSESSMENT' and contains a '+' button, input fields for 'Nutritional Assessment No.', 'Date From', 'Date To', and 'Recorded By', and a 'Search' button. Below the form is a table with columns 'NA No.', 'Date', 'Recorded By', and 'Details', and a message 'No Records Found!'.

Figure 3.1.1-1 PN Order

#### STEP 1

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

#### STEP 2

Click on the **+** button to do nutritional assessment for new patient

#### Note

*Nutritional Assessment screen will be displayed as per Figure 3.1.1-2.*

**NUTRITIONAL ASSESSMENT**

**Nutritional Risk Screening**

Initial Screening

1. Is BMI < 20.5?  
 Yes  No
2. Has the patient lost weight within the last 3 months?  
 Yes  No
3. Has the patient had a reduced dietary intake in the last week?  
 Yes  No
4. Is the patient severely ill? (e.g. in intensive therapy)  
 Yes  No

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

**Final Screening**

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

Total Score:

If Age is > 70 years, total score above is inclusive +1  
 Score > 3: the patient is nutritionally at-risk and a nutritional care plan is initiated  
 Score < 3: weekly re-screening of the patient. If the patient e.g. is scheduled for a major operation, a preventive nutritional care plan is considered to avoid the associated risk status.

**SGA - Subjective Global Assessment of Nutritional Status (HISTORY)**

1. Weight change  
 Overall in past 6 months:  kg % loss:   
 Change in past 2 weeks:
2. Dietary intake change:  Yes  No
3. Gastrointestinal symptoms (persisted > 2 weeks)  
 Nausea  
 Vomiting  
 Loss of Appetite  
 Diarrhea
4. Functional Capacity:  No Dysfunction  Dysfunction

**Physical Examination**  
 Specify for each sign:  
 0=normal 1=light 2=moderate 3=serious

Loss of subcutaneous fat (triceps, chest)  
 Loss of muscle mass (quadriceps, femors, deltoids, loss of bulk and tone detectable by palpation)  
 Ankle edema  
 Sacral edema  
 Ascites

SGA score:

Score Description:  
 A - Well nourished B - Malnourished C - Severe malnourished

Figure 3.1.1-2 Nutritional Assessment

**Note**

**Nutritional Risk Screening Section**

Answer all question by selecting “Yes” or “No” for nutritional assessment.

**Final Screening Section**

- 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.

**SGA - Subjective Global Assessment of Nutritional Status (HISTORY) Section**

All field for this section have to be entered by user.

**MEDICATION ORDER**

Height  Weight  BMI/BSA   (Last Updated : 03/11/2014 )

[Upload Photo](#)

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

Encounter No: 0013 Admission Date: 03/11/2014 Attending Practitioner: Dr Abdul Mu'iz bin Ahmad Fadzli Visit Location: WAD 9 (MED - P)

**VISIT RECORD**

Breast Feeding  Pregnant  Weeks

**NUTRITIONAL ASSESSMENT**

Nutritional Assessment No

Recorded By

Date From

Date To

1 / 1

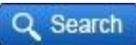
NA No.	Date	Recorded By	Details
NA14-11-0015	03/11/2014	Dr Abdul Mu'iz bin Ahmad Fadzli	NRS Total Score: 2, SGA Score: B - Malnourished

**Figure 3.1.1-3 Nutritional Assessment Listing Page**

**Physical Examination Section**

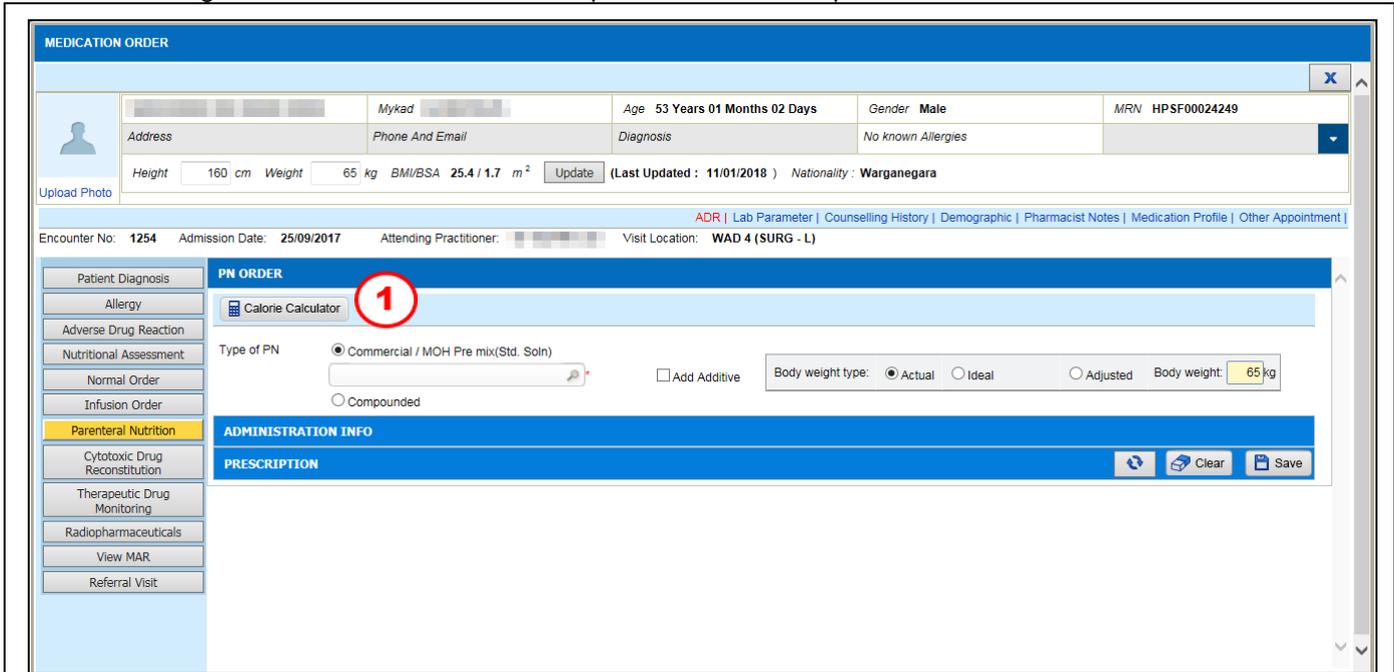
*This section have to be entered by user.*

**Note**

- The  button to save record.
- The  button to close the screen.
- The Nutritional Assessment record will be displayed at Nutritional Assessment Listing Page as per Figure 3.1.1-3.
- To search for existing nutritional assessment record(s), you may search by criteria as follow:
  - a) Nutritional Assessment No
  - b) Date From
  - c) Date To
  - d) Recorded By
- The  button to search for nutritional assessment record(s).
- Nutritional assessment details will be displayed and user have to double click on the nutritional assessment record listing.

### 3.1.2 Calorie Calculator

Calorie calculator allow user to calculate patient's calorie requirement. This value will out as a guideline for user to order the required TPN order for patient.



The screenshot shows the 'MEDICATION ORDER' interface. At the top, there is a patient information section with fields for Mykad, Age (53 Years 01 Months 02 Days), Gender (Male), and MRN (HPSF00024249). Below this, there are fields for Address, Phone And Email, Diagnosis, and No known Allergies. A section for physical attributes includes Height (160 cm), Weight (65 kg), and BMI/BSA (25.4 / 1.7 m<sup>2</sup>). A sidebar on the left contains a menu with options like Patient Diagnosis, Allergy, Adverse Drug Reaction, Nutritional Assessment, Normal Order, Infusion Order, Parenteral Nutrition (highlighted), Cytotoxic Drug Reconstitution, Therapeutic Drug Monitoring, Radiopharmaceuticals, View MAR, and Referral Visit. The main content area is titled 'PN ORDER' and contains a 'Calorie Calculator' button circled in red with the number '1'. Below the button, there are radio buttons for 'Type of PN' (Commercial / MOH Pre mix(Std. Soln) selected, Compounded) and 'Body weight type' (Actual selected, Ideal, Adjusted). A 'Body weight' field shows '65 kg'. At the bottom right of the main area are 'Clear' and 'Save' buttons.

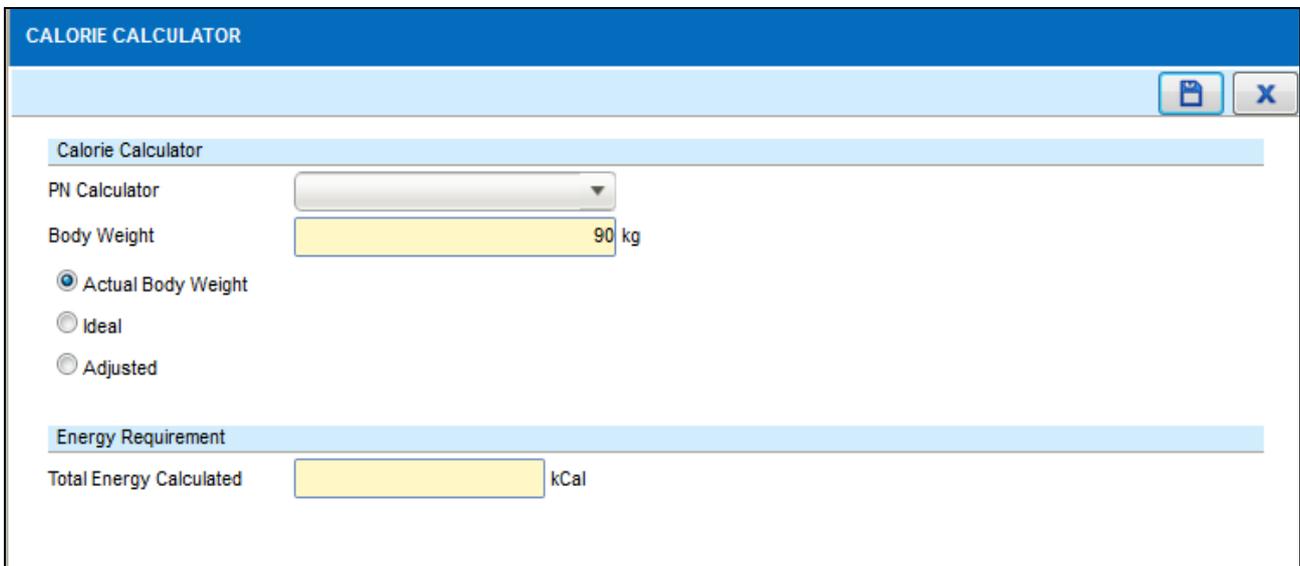
Figure 3.1.2-1 Calorie Calculator

#### STEP 1

Click on the  button to calculate patient calorie

#### Note

Calorie Calculator screen will be displayed as per Figure 3.1.2-2.



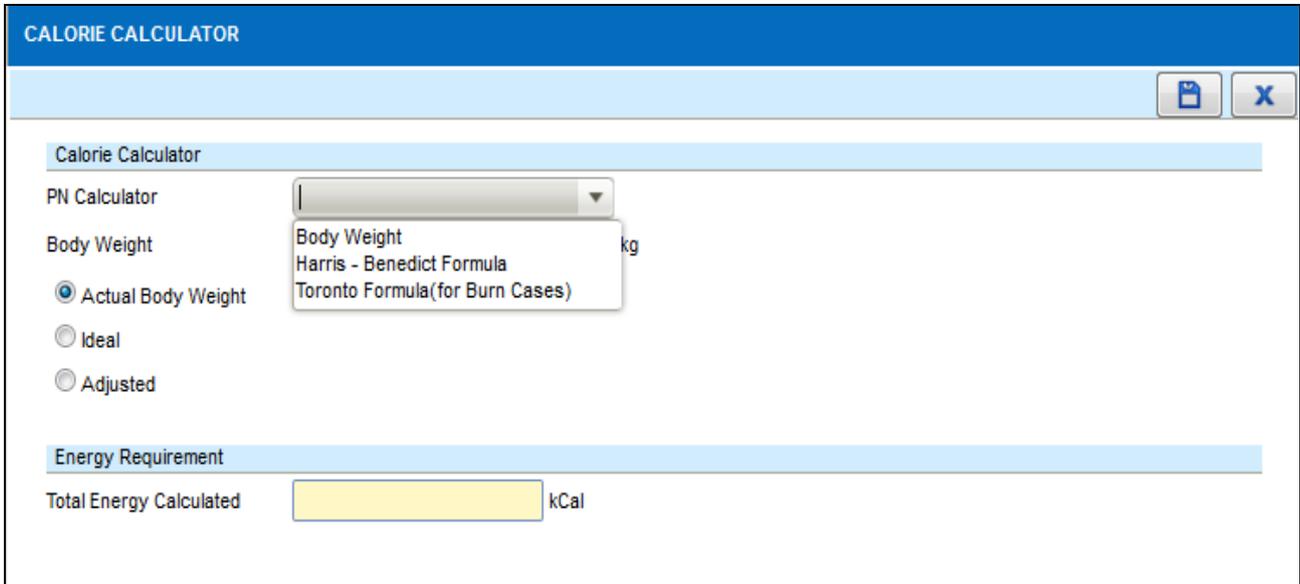
The screenshot shows the 'CALORIE CALCULATOR' window. It has a title bar with a save icon and a close button. The main content area has a 'Calorie Calculator' header. Below it, there is a 'PN Calculator' dropdown menu. A 'Body Weight' field is set to '90 kg'. There are three radio buttons: 'Actual Body Weight' (selected), 'Ideal', and 'Adjusted'. Below this is an 'Energy Requirement' section with a 'Total Energy Calculated' field set to an empty value followed by 'kCal'.

Figure 3.1.2-2 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 base on the information from patient banner.

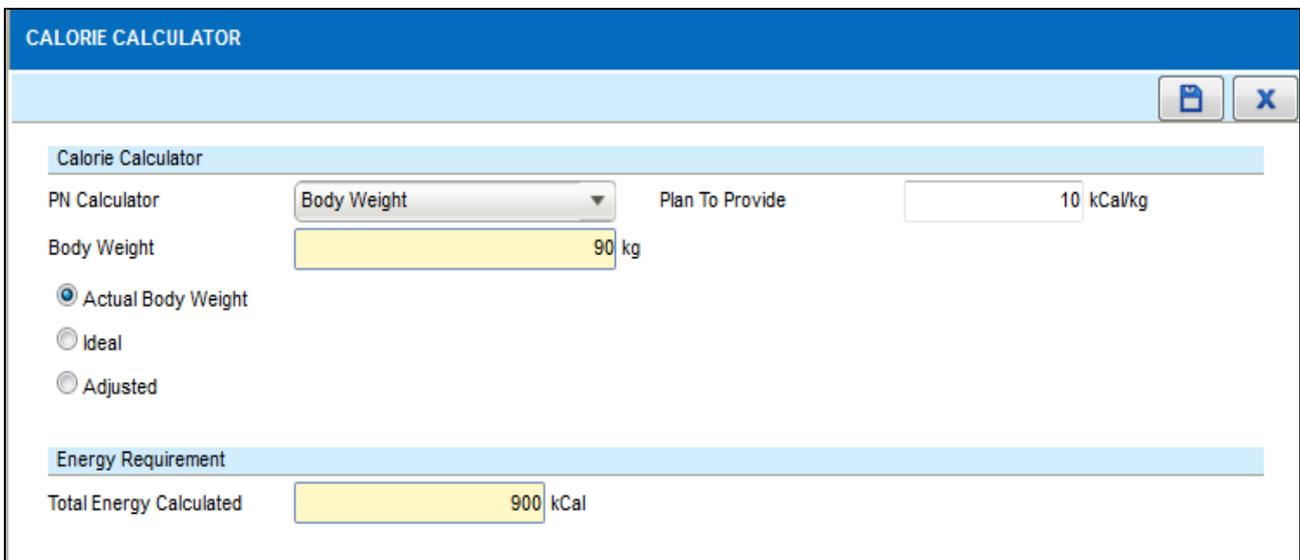


The screenshot shows a window titled "CALORIE CALCULATOR". Inside, there is a section for "Calorie Calculator" with a dropdown menu for "PN Calculator". The dropdown menu is open, showing three options: "Body Weight", "Harris - Benedict Formula", and "Toronto Formula(for Burn Cases)". Below the dropdown, there are three radio buttons for "Body Weight": "Actual Body Weight" (selected), "Ideal", and "Adjusted". At the bottom, there is a field for "Total Energy Calculated" with a yellow background and the unit "kCal".

Figure 3.1.2-3 Calorie Calculator

**Note**

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



The screenshot shows the same "CALORIE CALCULATOR" window. The "PN Calculator" dropdown is now set to "Body Weight". The "Body Weight" field is filled with "90 kg". The "Plan To Provide" field is filled with "10 kCal/kg". The "Total Energy Calculated" field now shows "900 kCal".

Figure 3.1.2-4 Calorie Calculator

**Note**

**PN Calculator : Body Weight**

- Select **Body Weight** from **PN Calculator** dropdown box.
- Enter the amount in **Plan To Provide** (kCal/kg).
- **Total Energy Calculated** will automatically calculate and display as per Figure 3.1.2-4.
- The  button to save record.
- The  button to close the screen.

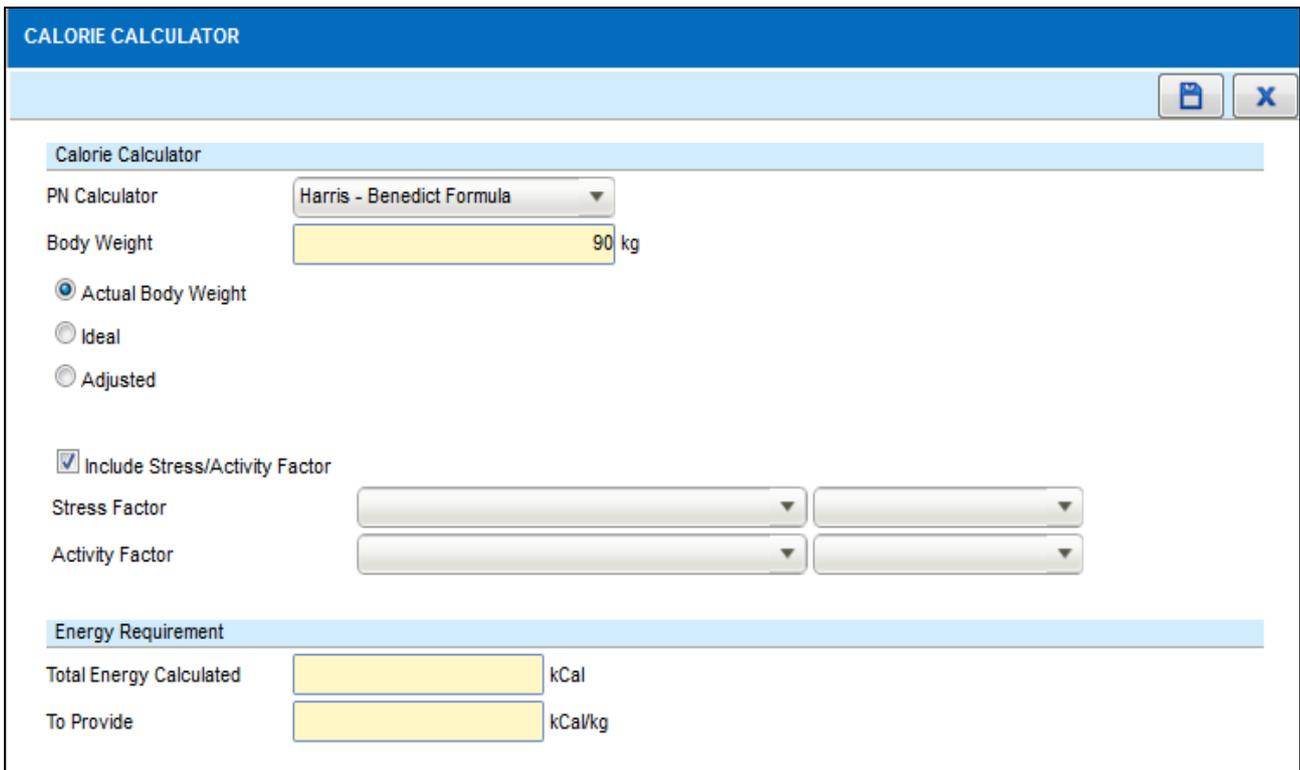


Figure 3.1.2-5 Calorie Calculator

**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** will display after selected the **Include Stress/ Activity Factor** checkbox.

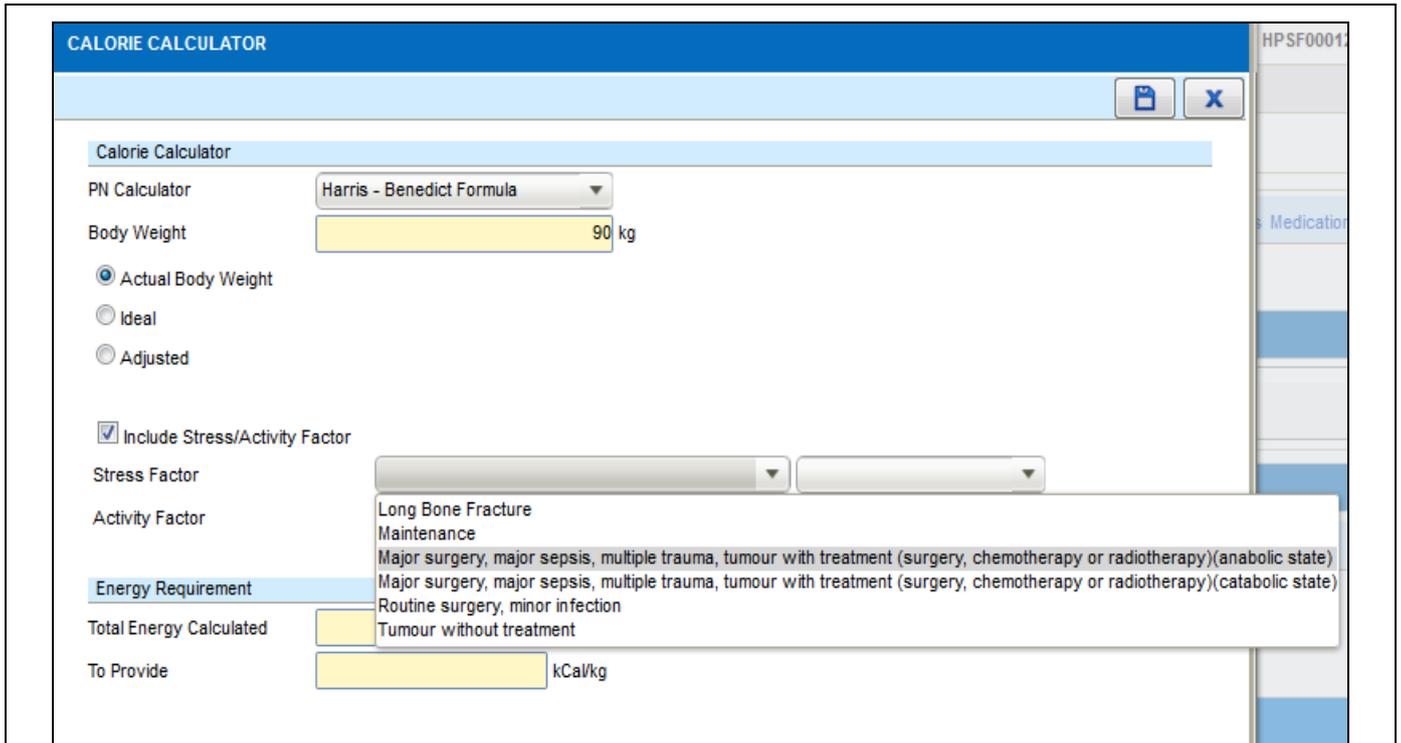


Figure 3.1.2-6 Calorie Calculator

**Note**

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

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

### CALORIE CALCULATOR

Calorie Calculator

PN Calculator: Harris - Benedict Formula

Body Weight: 90 kg

Actual Body Weight  
 Ideal  
 Adjusted

Include Stress/Activity Factor

Stress Factor: Major surgery, major sepsis, multiple trauma, tum 1.7

Activity Factor: [ ] [ ]

#### Energy Requirement

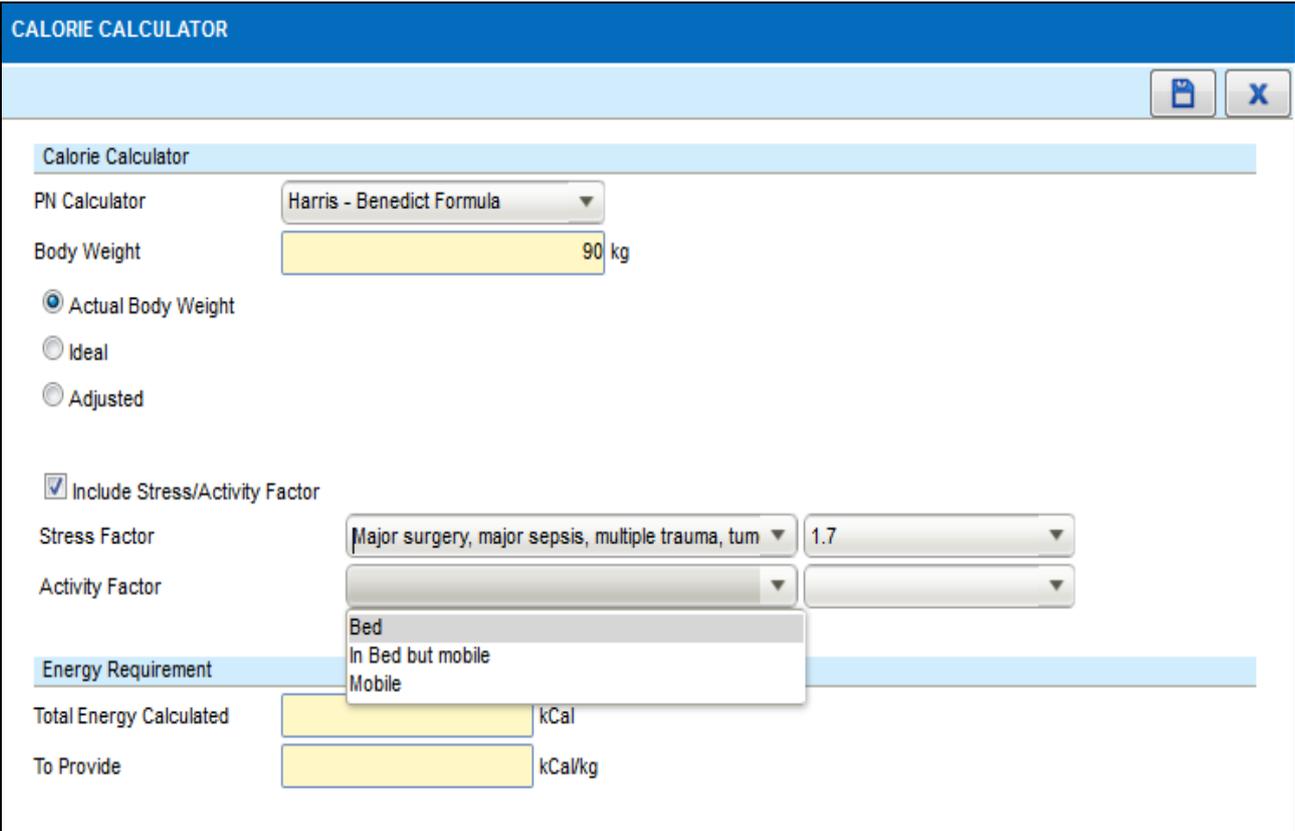
Total Energy Calculated: [ ] kCal

To Provide: [ ] kCal/kg

Figure 3.1.2-7 Calorie Calculator

**Note**

Value of the **Stress Factor** will automatically calculate by system.



**CALORIE CALCULATOR**

Calorie Calculator

PN Calculator: Harris - Benedict Formula

Body Weight: 90 kg

Actual Body Weight  
 Ideal  
 Adjusted

Include Stress/Activity Factor

Stress Factor: Major surgery, major sepsis, multiple trauma, tum | 1.7

Activity Factor: [Dropdown menu open showing: Bed, In Bed but mobile, Mobile]

Energy Requirement

Total Energy Calculated: [Field] kCal

To Provide: [Field] kCal/kg

**Figure 3.1.2-8 Calorie Calculator**

**Note**

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

- Bed
- In Bed but mobile
- Mobile

### CALORIE CALCULATOR

Calorie Calculator

PN Calculator: Harris - Benedict Formula

Body Weight: 90 kg

Actual Body Weight  
 Ideal  
 Adjusted

Include Stress/Activity Factor

Stress Factor: Major surgery, major sepsis, multiple trauma, tum 1.7

Activity Factor: Bed 1.1

---

Energy Requirement

Total Energy Calculated: 2961.9 kCal

To Provide: 32.9 kCal/kg

Figure 3.1.2-9 Calorie Calculator

**Note**

- Value of the **Activity Factor** will automatically calculate by system.
- Amount of **Total Energy Calculated** and **To Provide** will automatically calculate after selected the **Activity Factor** as per Figure 3.1.2-9.
- The  button to save record.
- The  button to close the screen.

**CALORIE CALCULATOR**




---

**Calorie Calculator**

PN Calculator: Toronto Formula(for Burn Cases) ▼

Body Weight: 90 kg

Actual Body Weight  
 Ideal  
 Adjusted

Burn Surface Area: 5 %

Body Temperature: 50 °C

Post Burn Days: 1 Days

Caloric intake: 100 kCal

Activity Factor: Bed ▼ 1.1 ▼

---

**Energy Requirement**

Total Energy Calculated: 3034.3 kCal

To Provide: 33.7 kCal/kg

**Figure 3.1.2-10 Calorie Calculator**

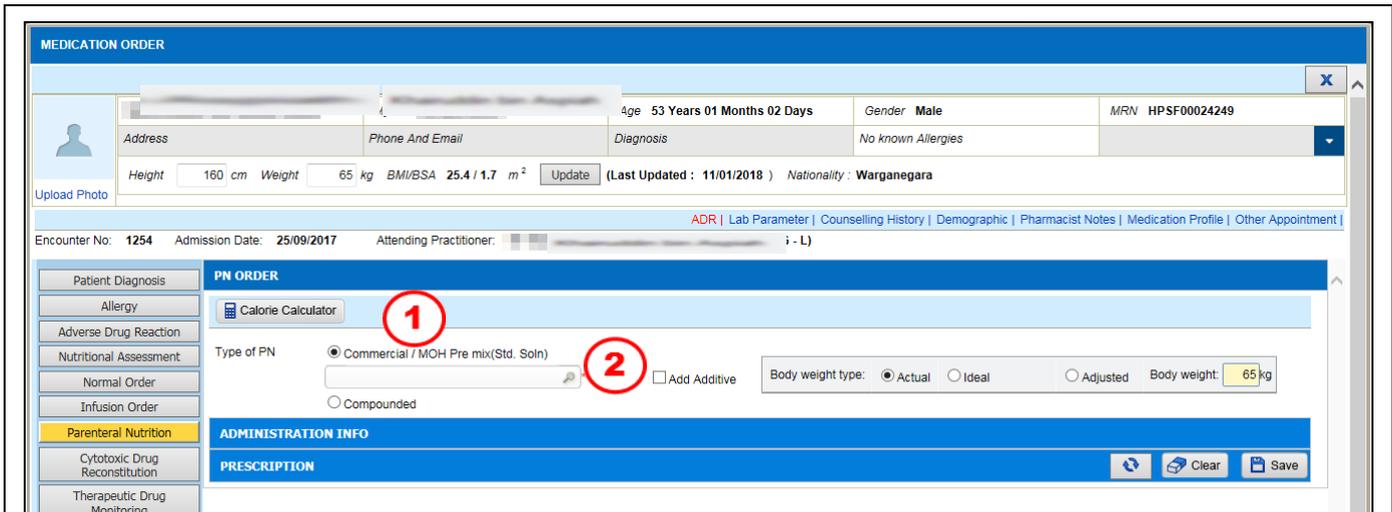
**Note**

**PN Calculator : Toronto Formula**

- Select **Toronto Formula (for Burn Cases)** from **PN Calculator** dropdown box.
- Enter all field 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 automatically calculate by system.
- **Total Energy Calculated** and **To Provide** will automatically calculate after selected the **Activity Factor** as per Figure 3.1.2-10.
- The  button to save record.
- The  button to close the screen.

### 3.1.3 Commercial/MOH Pre mix (Std. Soln)

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



**MEDICATION ORDER**

Age 53 Years 01 Months 02 Days | Gender Male | MRN HPSF00024249

Address | Phone And Email | Diagnosis | No known Allergies

Height 160 cm | Weight 65 kg | BMI/BSA 25.4 / 1.7 m<sup>2</sup> | Update (Last Updated : 11/01/2018) | Nationality : Warganegara

Encounter No: 1254 | Admission Date: 25/09/2017 | Attending Practitioner: [Name]

**PN ORDER**

Calorie Calculator **1**

Type of PN:  Commercial / MOH Pre mix(Std. Soln) **2**  Add Additive

Body weight type:  Actual  Ideal  Adjusted | Body weight: 65 kg

**ADMINISTRATION INFO**

**PRESCRIPTION**

Clear Save

Figure 3.1.3-1 PN Order

#### STEP 1

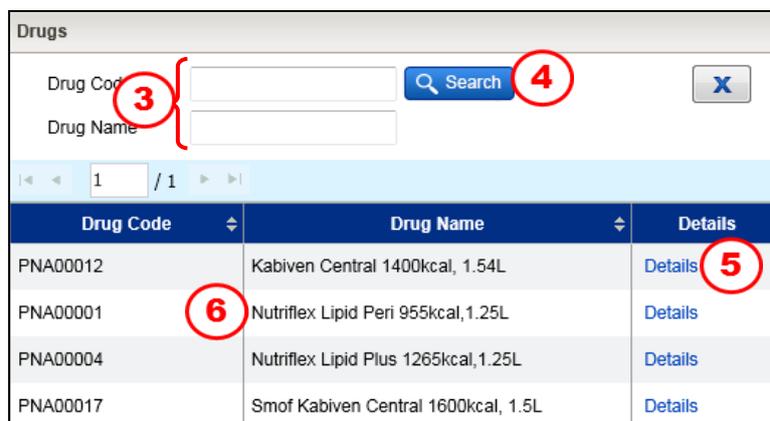
Select on the  Commercial / MOH Pre mix(Std. Soln) radio button for **Type of PN**

#### STEP 2

Click on the  button to search for product

#### Note

User allowed to choose **Body weight type: Actual/Ideal/Adjusted**



Drugs

Drug Code  **3** Search **4**

Drug Name

1 / 1

Drug Code	Drug Name	Details
PNA00012	Kabiven Central 1400kcal, 1.54L	Details <b>5</b>
PNA00001	Nutriflex Lipid Peri 955kcal, 1.25L	Details
PNA00004	Nutriflex Lipid Plus 1265kcal, 1.25L	Details
PNA00017	Smof Kabiven Central 1600kcal, 1.5L	Details

Figure 3.1.3-2 PN Order

#### STEP 3

To search for existing product record(s), you may search by criteria as follow:

- Drug Code
- Drug Name

**STEP 4**

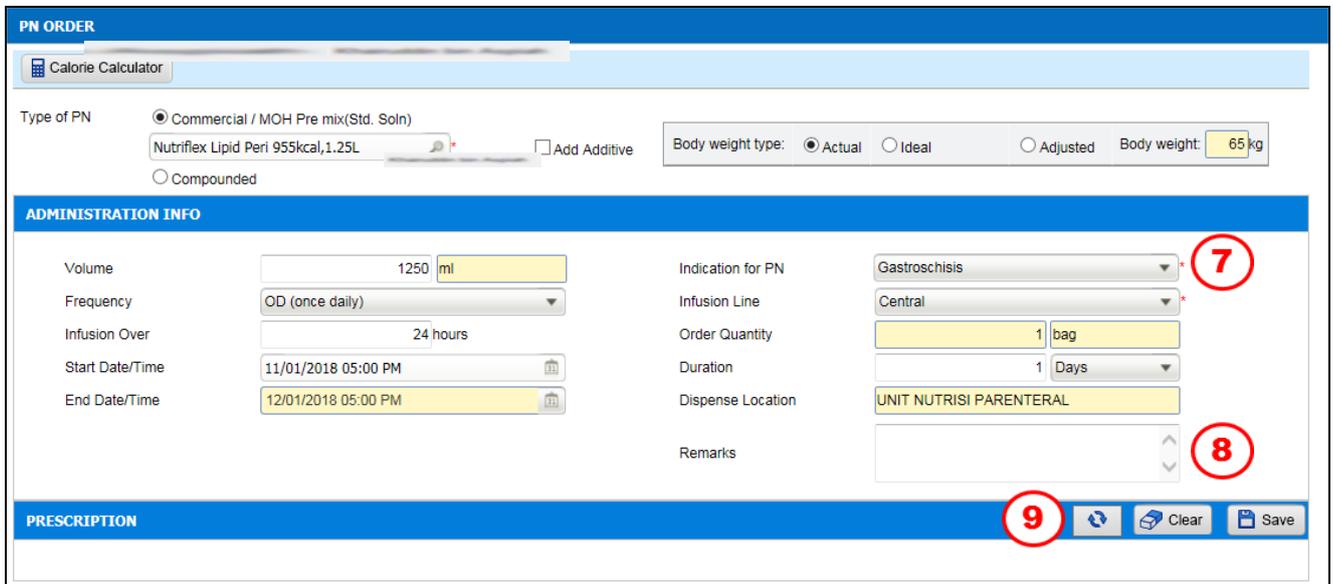
Click on the  button to search for the product

**STEP 5**

Click on the  button to view product ingredients and content

**STEP 6**

Select product that required for patient



The screenshot shows the 'PN ORDER' form. At the top, there is a 'Calorie Calculator' button. Below it, the 'Type of PN' section includes radio buttons for 'Commercial / MOH Pre mix(Std. Soln)' (selected) and 'Compounded'. A search field contains 'Nutriflex Lipid Peri 955kcal,1.25L' and an 'Add Additive' checkbox. The 'Body weight type' section has radio buttons for 'Actual' (selected), 'Ideal', and 'Adjusted', with a 'Body weight' field set to '65 kg'. The 'ADMINISTRATION INFO' section contains several fields: 'Volume' (1250 ml), 'Frequency' (OD (once daily)), 'Infusion Over' (24 hours), 'Start Date/Time' (11/01/2018 05:00 PM), and 'End Date/Time' (12/01/2018 05:00 PM). On the right side, there are dropdown menus for 'Indication for PN' (Gastroschisis, circled 7), 'Infusion Line' (Central), 'Order Quantity' (1 bag), 'Duration' (1 Days), and 'Dispense Location' (UNIT NUTRISI PARENTERAL). A 'Remarks' text area is circled 8. At the bottom, the 'PRESCRIPTION' section has a 'Save' button circled 9, along with 'Clear' and 'Save' buttons.

Figure 3.1.3-3 PN Order

**Note**

- All information for **Volume, Frequency, Start Date/Time, End Date/Time, Order Quantity, Infusion Line, Duration, Infusion Over** and **Dispense Location** field will be automatically displayed and base on the information from PN Source Content and PN Constituents Reference Range.
- **Volume, Frequency, Infusion Line, Duration** and **Infusion Over** field still can be change by the user if applicable.
- **Start Date** and will be automatically default to current date but still can be change by the user if applicable.
- **End Date** will display according to duration product given.
- **Dispense Location** will be automatically default by system.

**STEP 7**

Select Indication for PN from the dropdown box

**STEP 8**

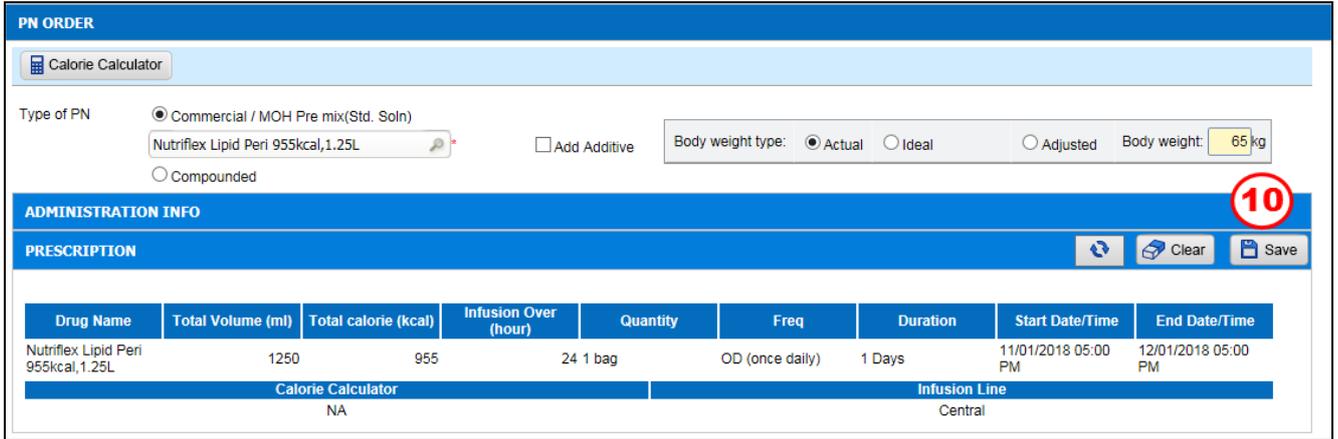
Enter **Remarks** if applicable

**STEP 9**

Click on the  button to add prescription

**Note**

Prescription will be displayed as per Figure 3.1.3-4.



**PN ORDER**

Calorie Calculator

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

Nutriflex Lipid Peri 955kcal,1.25L  Add Additive

Body weight type:  Actual  Ideal  Adjusted Body weight: 65 kg

**ADMINISTRATION INFO** 10

**PRESCRIPTION**

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start Date/Time	End Date/Time
Nutriflex Lipid Peri 955kcal,1.25L	1250	955	24	1 bag	OD (once daily)	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM
Calorie Calculator				Infusion Line				
NA				Central				

Figure 3.1.3-4 PN Order

**STEP 10**

Click on the  button to save prescription

**Note**

The  button to clear all information of prescription order.

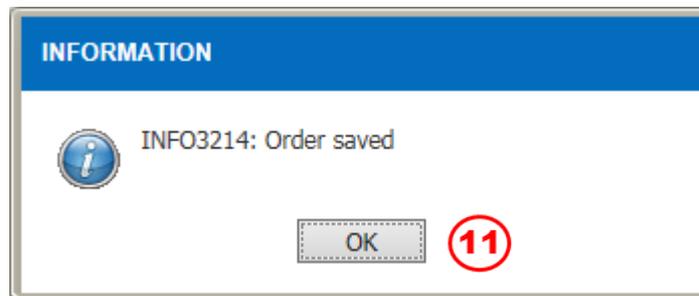


Figure 3.1.3-5 Information Alert

**STEP 11**

Click on the  button to save order record

**Note**

After saving the record,  button,  button,  button and  button will be displayed as per Figure 3.1.3-6.

**PN ORDER**

Calorie Calculator

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

Nutriflex Lipid Peri 955kcal, 1.25L  Add Additive

Body weight type:  Actual  Ideal  Adjusted Body weight: 65 kg

---

**ADMINISTRATION INFO** 12

**PRESCRIPTION**

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start Date/Time	End Date/Time
Nutriflex Lipid Peri 955kcal, 1.25L	1250	955	24	1 bag	OD (once daily)	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM
Calorie Calculator			Infusion Line					
NA			Central					

**Figure 3.1.3-6 Medication Order**

**STEP 12**

Click on the  button to confirm prescription

**Note**

- The  button to delete prescription.
- The  button to print prescription.
- The  button to edit information after saved record.

**CONFIRMATION**

 CONF3219: Are you sure want to confirm the order?

13

**Figure 3.1.3-7 Confirmation Alert**

**STEP 13**

Click on the  button to confirm record order

**PN ORDER**

Calorie Calculator

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

Nutriflex Lipid Peri 955kcal, 1.25L

Body weight type:  Actual  Ideal  Adjusted Body weight:

**ADMINISTRATION INFO**

**PRESCRIPTION**

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start Date/Time	End Date/Time
Nutriflex Lipid Peri 955kcal,1.25L	1250	955	24	1 bag	OD (once daily)	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM
Calorie Calculator				Infusion Line				
NA				Central				

**Figure 3.1.3-8 PN Order**

**Note**

- Click on the  button to view/print PN prescription as Figure 3.1.3-9
- Click on the  button to order a new prescription

**Ministry Of Health, Malaysia**  
**Hospital Pakar Sultanah Fatimah, Muar**  
**PARENTERAL NUTRITION**

**Patient Name:** SXXXXXXXXX XXX XXXXX XXXXX      **Patient ID:** 641209015255

**Age:** 53 Years 01 Months 02 Days      **MRN:** HPSF00024249

**Gender:** Male      **Prescription :** 40001087881

**Height / Weight / BSA:** 160 cm/65 kg/1.73 m<sup>2</sup>      **Order Date / Time :** 11/01/2018 12:19 PM

**Room No / Bed:**      **Location:** WAD 4 (SURG - L)

**Diagnosis:** PREMED      **Allergy:**

---

**TPN Order:** Nutriflex Lipid Peri 955kcal,1.25L      **Order Quantity:** 1 bag

**Start Date/Time:** 11/01/2018 05:00 PM      **End Date/Time:** 12/01/2018 05:00 PM

	Content / kg	Content / bag
Volume (ml)	19.23	1250
Calorie (kCal)	14.69	955
Protein (g)	0.62	40
Carbohydrate (g)	1.23	80
Lipid (g)	0.77	50
Sodium (mmol)	0.77	50
Potassium (mmol)	0.46	30
Calcium (mmol)	0.05	3
Magnesium (mmol)	0.05	3
Phosphate (mmol)	0.12	7.5
Fat Soluble Vitamin (ml)	NA	NA

**Infusion Over:** 24 hr      **Infusion Rate:** 52.08 ml/hr

**Prescriber:** Dr Tay Wei Lun      **Frequency:** OD (once daily)

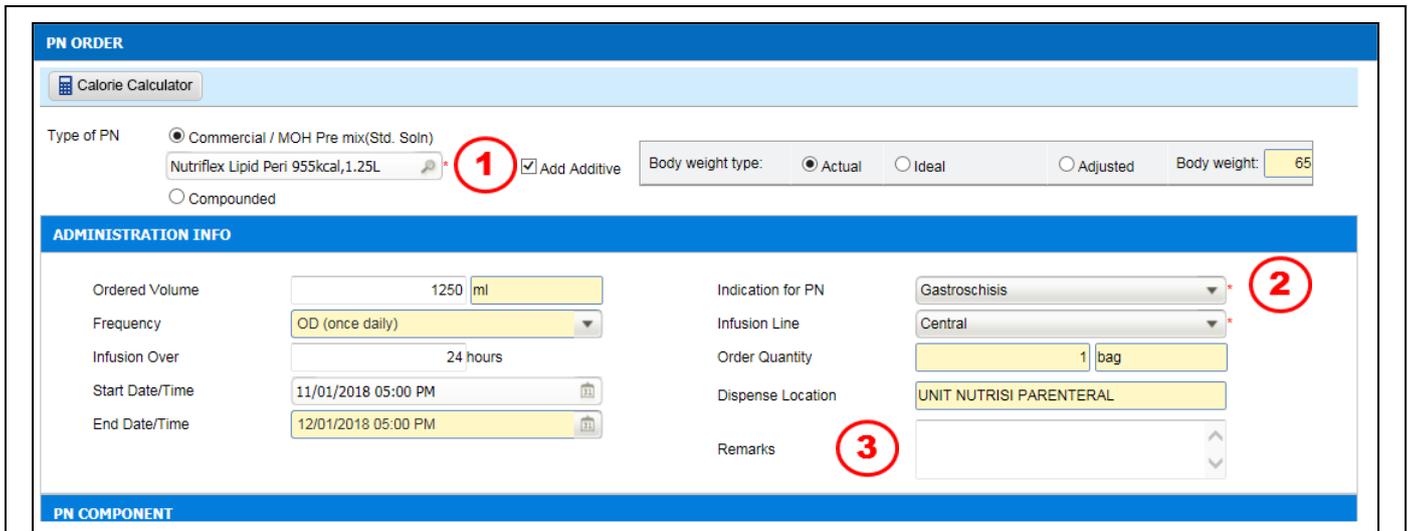
**Designation:** Pegawai Perubatan      **Infusion Route:** Central

**Department:** Anaesthesia and Intensive Care      **Remarks:**

Figure 3.1.3-9 PN Prescription

### 3.1.4 Commercial/MOH Pre mix (Std. Soln) Add Addictive

Commercial / MOH Pre Mix (Std. Soln) allow user to order ready made product with additional PN component.



The screenshot shows the 'PN ORDER' form. At the top, there is a 'Calorie Calculator' button. Below it, the 'Type of PN' section has radio buttons for 'Commercial / MOH Pre mix(Std. Soln)' (selected), 'Compounded', and 'Add Additive' (checked). A red circle '1' highlights the 'Add Additive' checkbox. The 'Body weight type' section has radio buttons for 'Actual' (selected), 'Ideal', and 'Adjusted', with a 'Body weight' field containing '65'. The 'ADMINISTRATION INFO' section contains several fields: 'Ordered Volume' (1250 ml), 'Frequency' (OD (once daily)), 'Infusion Over' (24 hours), 'Start Date/Time' (11/01/2018 05:00 PM), 'End Date/Time' (12/01/2018 05:00 PM), 'Indication for PN' (Gastrochisis), 'Infusion Line' (Central), 'Order Quantity' (1 bag), 'Dispense Location' (UNIT NUTRISI PARENTERAL), and 'Remarks' (empty). A red circle '2' highlights the 'Indication for PN' dropdown, and a red circle '3' highlights the 'Remarks' field. At the bottom, there is a 'PN COMPONENT' section.

Figure 3.1.4-1 PN Order

#### STEP 1

Select product and check on the  **add additive** checkbox

#### Note

- All information for **Volume, Frequency, Start Date/Time, End Date/Time, Order Quantity, Infusion Line, Duration, Infusion Over** and **Dispense Location** field will be automatically displayed and base on the information from PN Source Content and PN Constituents Reference Range.
- **Volume, Frequency, Infusion Line, Duration** and **Infusion Order** field still can be change by the user if applicable.
- **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 display according to duration product given.
- **Dispense Location** will be automatically default by system.
- User allowed to choose **Body weight type: Actual/Ideal/Adjusted**

#### STEP 2

Select Indication for PN from the dropdown box

#### STEP 3

Enter **Remarks** if applicable

**PN ORDER**

Type of PN  Commercial / MOH Pre mix(Std. Soln)  
  Add Additive Body weight type:  Actual  Ideal  Adjusted Body weight:   
 Compounded

**ADMINISTRATION INFO**

**PN COMPONENT**

Electrolytes	Initial Content	Additional Requirement	Total Per Day
Sodium(Natrium),Na+	<input type="text" value="50"/> mmol	<input type="text"/> mmol	<input type="text" value="50"/> mmol
Potassium(Kalium),K+	<input type="text" value="30"/> mmol	<input type="text"/> mmol	<input type="text" value="30"/> mmol
Calcium,Ca2+	<input type="text" value="3"/> mmol	<input type="text" value="3"/> mmol	<input type="text" value="6"/> mmol
Magnesium,Mg+	<input type="text" value="3"/> mmol	<input type="text" value="3"/> mmol	<input type="text" value="6"/> mmol
Phosphate,(PO4)2-	<input type="text" value="7.5"/> mmol	<input type="text"/> mmol	<input type="text" value="7.5"/> mmol
Acetate(CH3COO)	<input type="text" value="40"/> mmol	<input type="text"/> mmol	<input type="text" value="40"/> mmol
<b>Trace elements</b>	<input type="text" value="0"/> ml	<input type="text"/> ml	<input type="text" value="0"/> ml
L-Glutamin	<input type="text" value="0"/> ml	<input type="text"/> ml	<input type="text" value="0"/> ml

**Vitamin**  
 Single Vitamin  Combine Vitamin

**PRESCRIPTION**
5

Figure 3.1.4-2 PN Order

**STEP 4**

Enter value of **Electrolytes**, **Trace elements** and **L-Glutamin** 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 automatically default by system.
- Select  **Single Vitamin** radio button. **Water soluble** and **Fat soluble** field will automatically display as per Figure 3.1.4-3.
- Select  **Combine Vitamin** radio button. **Water and Fat soluble** field will automatically display as per Figure 3.1.4-4.
- All value in all **Per Bag (Per Ordering)** field will automatically default by system.

Single Vitamin  Multi Vitamin

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

Figure 3.1.4-3 PN Component

**Vitamin**  
 Single Vitamin  Combine Vitamin

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

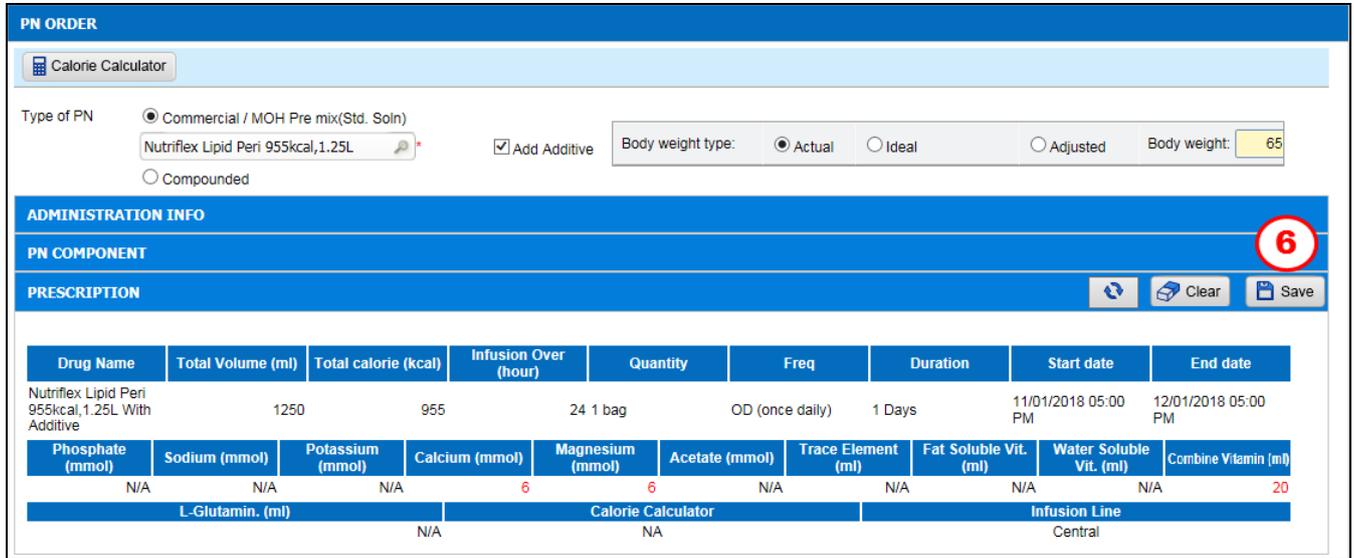
Figure 3.1.4-4 PN Component

**STEP 5**

Click on the  button to add prescription

**Note**

Prescription will display as per Figure 3.1.4-5.



**PN ORDER**

Calorie Calculator

Type of PN:  Commercial / MOH Pre mix(Std. Soln)  
 Nutriflex Lipid Peri 955kcal,1.25L  Add Additive  
 Compounded

Body weight type:  Actual  Ideal  Adjusted Body weight: 65

**ADMINISTRATION INFO**

**PN COMPONENT**

**PRESCRIPTION**   

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date											
Nutriflex Lipid Peri 955kcal,1.25L With Additive	1250	955	24	1 bag	OD (once daily)	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM											
Phosphate (mmol)	N/A	Sodium (mmol)	N/A	Potassium (mmol)	N/A	Calcium (mmol)	6	Magnesium (mmol)	6	Acetate (mmol)	N/A	Trace Element (ml)	N/A	Fat Soluble Vit. (ml)	N/A	Water Soluble Vit. (ml)	N/A	Combine Vitamin (ml)	20
L-Glutamin. (ml)			Calorie Calculator			Infusion Line													
N/A			N/A			Central													

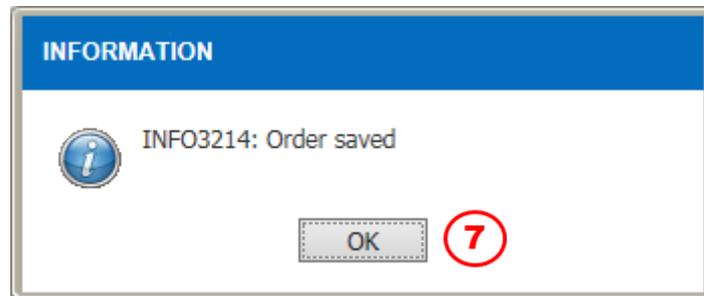
Figure 3.1.4-5 PN Prescription

**STEP 6**

Click on the  button to save prescription

**Note**

The  button to clear all information of prescription order.



**INFORMATION**

 INFO3214: Order saved

 **7**

Figure 3.1.4-6 Information Alert

**STEP 17**

Click on the  button to save order record

**Note**

After saving the record,  button,  button,  button and  button will be displayed as per Figure 3.1.4-7.

**PN ORDER**

Calorie Calculator

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

Nutriflex Lipid Peri 955kcal,1.25L  Add Additive

Body weight type:  Actual  Ideal  Adjusted Body weight:

**ADMINISTRATION INFO**

**PN COMPONENT**

**PRESCRIPTION**

Confirm Order Delete Prescription Modify

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
Nutriflex Lipid Peri 955kcal,1.25L With Additive	1250	955	24	1 bag	OD (once daily)	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Acetate (mmol)	Trace Element (ml)	Fat Soluble Vit. (ml)	Water Soluble Vit. (ml)	Combine Vitamin (ml)
N/A	N/A	N/A	6	6	N/A	N/A	N/A	N/A	20
L-Glutamin. (ml)		Calorie Calculator			Infusion Line				
N/A		N/A			Central				

Figure 3.1.4-7 Prescription

**STEP 8**

Click on the Confirm Order button to confirm prescription

**Note**

- The Delete button to delete prescription.
- The Prescription button to print prescription.
- The Modify button to edit information after saved record.

**CONFIRMATION**



CONF3219: Are you sure want to confirm the order?

Cancel Yes No

Figure 3.1.4-8 Confirmation Alert

**STEP 9**

Click on the Yes button to confirm record order

**PN ORDER**

Calorie Calculator

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

Nutriflex Lipid Peri 955kcal,1.25L   Add Additive : Body weight type:  Actual  Ideal  Adjusted Body weight:

**ADMINISTRATION INFO**

**PN COMPONENT**

**PRESCRIPTION**

Drug Name	Total Volume (ml)	Total calorie (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
Nutriflex Lipid Peri 955kcal,1.25L With Additive	1250	955		24 1 bag	OD (once daily)	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate (mmol)	Sodium (mmol)	Potassium (mmol)	Calcium (mmol)	Magnesium (mmol)	Acetate (mmol)	Trace Element (ml)	Fat Soluble Vit. (ml)	Water Soluble Vit. (ml)	Combine Vitamin (ml)
N/A	N/A	N/A	6	6	N/A	N/A	N/A	N/A	20
L-Glutamin. (ml)		Calorie Calculator			Infusion Line				
		N/A			NA Central				

Figure 3.1.4-9 PN Order

**Note**

- Click on the  button to view/print PN prescription as Figure 3.1.4-10
- Click on the  button to order a new prescription



**Ministry Of Health, Malaysia**  
**Hospital Pakar Sultanah Fatimah, Muar**  
**PARENTERAL NUTRITION**

**Patient Name:** SXXXXXXXXX XXX XXXXX XXXXX      **Patient ID:** 641209015255

**Age:** 53 Years 01 Months 02 Days      **MRN:** HPSF00024249

**Gender:** Male      **Prescription :** 40001087882

**Height / Weight / BSA:** 160 cm/65 kg/1.73 m<sup>2</sup>      **Order Date / Time :** 11/01/2018 12:55 PM

**Room No / Bed:**      **Location:** WAD 4 (SURG - L)

**Diagnosis:** PREMED      **Allergy:**

---

**TPN Order:** Nutriflex Lipid Peri 955kcal,1.25L With additive      **Order Quantity:** 1 bag

**Start Date/Time:** 11/01/2018 05:00 PM      **End Date/Time:** 12/01/2018 05:00 PM

	Additional Requirement	Content/bag	Content/kg
Volume (ml)	NA	1250	19.23
Calorie (kCal)	NA	955	14.69
Protein (g)	NA	40	0.62
Carbohydrate (g)	NA	80	1.23
Lipid (g)	NA	50	0.77
Sodium (mmol)	NA	50	0.77
Potassium (mmol)	NA	30	0.46
Calcium (mmol)	3	6	0.09
Magnesium (mmol)	3	6	0.09
Phosphate (mmol)	NA	7.5	0.12
Chloride (mmol)	NA	48	0.74
Acetate (mmol)	NA	40	0.62
Trace Element (ml)	NA	NA	NA
Combine Vitamin (ml)	20	20	0.31
Water Soluble Vitamin (ml)	NA	NA	NA
Fat Soluble Vitamin (ml)	NA	NA	NA
Glutamin (ml)	NA	NA	NA

**Infusion Over:** 24 hr      **Infusion Rate:** 52.08 ml/hr

**Prescriber:** Dr Tay Wei Lun      **Frequency:** OD (once daily)

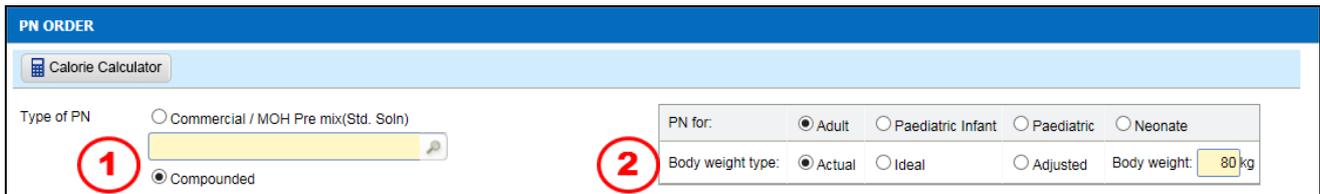
**Designation:** Pegawai Perubatan      **Infusion Route:** Central

**Department:** Anaesthesia and Intensive Care      **Remarks:**

Figure 3.1.4-10 PN Prescription

### 3.1.5 Compounded for Adult

PN Compounded allow user to order PN ready made product with customized patient requirement.



The screenshot shows the 'PN ORDER' interface. At the top left is a 'Calorie Calculator' button. Below it, the 'Type of PN' section has two radio buttons: 'Commercial / MOH Pre mix(Std. Soln)' and 'Compounded'. The 'Compounded' option is selected and circled in red with the number '1'. To the right, the 'PN for:' section has four radio buttons: 'Adult', 'Paediatric Infant', 'Paediatric', and 'Neonate'. The 'Adult' option is selected and circled in red with the number '2'. Below this, the 'Body weight type:' section has three radio buttons: 'Actual', 'Ideal', and 'Adjusted'. The 'Actual' option is selected. To the right of these is a 'Body weight:' input field containing '80 kg'.

Figure 3.1.5-1 PN Order

#### STEP 1

Select on **Type of PN** as Compounded

#### Note

**PN for:** will be automatically based on the patient PN Reference;

- Adult : age from 13 years to 150 years
- Paediatric : age from 3 years to 12 years
- Paediatric-infant : 31 days to 2 years
- Neonate : from 1 day to 30 days

#### STEP 2

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 be change base on selected **Body Weight Type**.

PN COMPONENT				
Use Fluid Calculator	<input checked="" type="checkbox"/>			
Total volume required	38.75 ml/kg		3100 ml	
Total oral feeding	0 ml/kg			
TPN Volume	38.75 ml/kg		3100 ml	
Energy required	48 kcal/kg		3840 kcal	
<b>Macronutrient</b>		<b>Recommended range(per kg)</b>		<b>Energy(per day)</b>
Carbohydrate	3 g/kg	3.00 - 5.00 g/kg	240 g	960 kcal
Lipid	1 g/kg	0.50 - 2.00 g/kg	80 g	720 kcal
Protein	2 g/kg	0.50 - 2.00 g/kg	160 g	640 kcal
L-Glutamin	2.5 ml/kg	1.50 - 2.50 ml/kg	200 ml	160 kcal
Carbohydrate:Lipid (kcal)	57 : 43	Nitrogen Content	26 g	NPC:NRatio
				70 : 1
			Total	2480 kcal
<b>Electrolytes</b>				
Sodium (Natrium),Na+	1 mmol/kg	1.00 - 2.00 mmol/kg	80 mmol	
Potassium (Kalium),K+	1 mmol/kg	0.70 - 1.50 mmol/kg	80 mmol	
Calcium,Ca2+	0.1 mmol/kg	0.10 - 0.15 mmol/kg	8 mmol	
Magnesium,Mg+	0.1 mmol/kg	0.05 - 0.15 mmol/kg	8 mmol	
Phosphate,(PO4)2-	0.6 mmol/kg	0.50 - 0.70 mmol/kg	48 mmol	
Chloride,Cl+		1.30 - 2.00 mmol/kg	0 mmol	
Acetate(CH3COO)		0.00 - 0.00 mmol/kg	0 mmol	
<b>Trace elements</b>		0.00 - 10.00 ml		
<b>Vitamin</b>				
<input checked="" type="radio"/> Single Vitamin				
<input type="radio"/> Combine Vitamin				
Water soluble	0.09 ml/kg	0.00 - 10.00 ml	7 ml	
Fat soluble	0.06 ml/kg	0.00 - 10.00 ml	5 ml	

Figure 3.1.5-2 PN Component

### STEP 3

Select  **Use Fluid Calculator** check box

#### Note

By selecting **Use Fluid Calculator** check box, system will be auto calculate **Total volume required per day** based on the **Body Weight Type**

### STEP 4

Enter value for **Total volume required per day**

### STEP 5

Enter value for **Total Oral Feeding per day**

#### Note

**TPN Volume** will be automatically calculated by system.

### STEP 6

Enter value of the **Macronutrient** that applicable for the PN Component.

#### Note

- All entered value must between the **Recommended Range (per kg)**.
- 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 **By Weight** will automatically calculate and display after enter the **Trace elements Per day** value.

#### STEP 7

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

#### Note

- All entered value must between the **Recommended Range (per kg)**.
- Chloride ,Cl<sup>-</sup>** and **Acetate (CH<sub>3</sub>COO)** is optional function.
- All value **Per day** will automatically calculate and display.
- Enter value of the **Trace elements Per day**. Value **By Weight** will be automatically calculated and displayed after enter the **Trace elements Per day** value.

<input checked="" type="radio"/> Single Vitamin	<input type="radio"/> Multi Vitamin			
Water soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml	
Fat soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml	

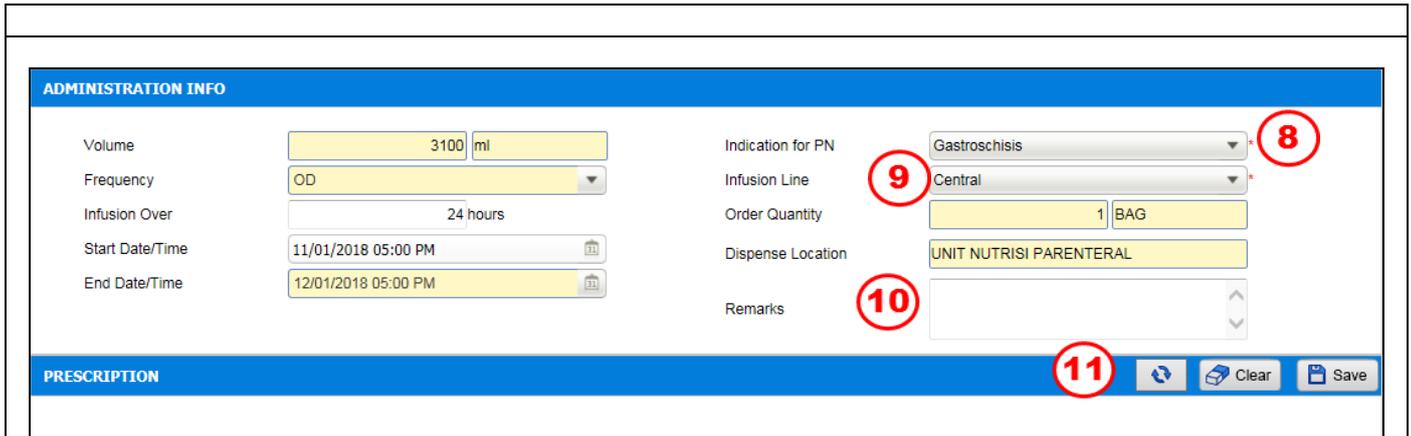
Figure 3.1.5-3 PN Component

Vitamin				
<input type="radio"/> Single Vitamin	<input checked="" type="radio"/> Combine Vitamin			
Water and Fat Soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml	

Figure 3.1.5-4 PN Component

#### Note

- Select either **Single Vitamin** or **Combine Vitamin** radio button.
- Vitamin have 2 types vitamin:
  - Single Vitamin
  - Multi Vitamin
- If user select **Single Vitamin** radio button; **Water soluble** and **Fat soluble** field will automatically display by system as per Figure 3.1.5-3.
- If user select **Combine Vitamin** radio button; **Water and Fat Soluble** field will automatically display by system as per Figure 3.1.5-4.



ADMINISTRATION INFO	
Volume	3100 ml
Frequency	OD
Infusion Over	24 hours
Start Date/Time	11/01/2018 05:00 PM
End Date/Time	12/01/2018 05:00 PM
Indication for PN	Gastrochisis
Infusion Line	Central
Order Quantity	1 BAG
Dispense Location	UNIT NUTRISI PARENTERAL
Remarks	

**PRESCRIPTION** [Refresh] [Clear] [Save]

Figure 3.1.5-5 Administration Info

**STEP 8**

Enter **Indication for PN** by select from drop down box

**STEP 9**

Enter **Infusion Line** by select from drop down box

**Note**

- **Infusion Over** will be automatically default to 24 hours but user is allow to change at this field.
- **Volume, Frequency, Order Quantity and Duration** will be automatically displayed by system and user is not allow to edit this field.
- **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.
- **Dispense Location** will be automatically default by system.

**STEP 10**

Enter **Remarks** if applicable

**STEP 11**

Click on the  button to add prescription

**Note**

Prescription will display as per Figure 3.1.5-6

**PN ORDER**

Calorie Calculator

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

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight: 80 kg

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION**

Clear Save

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.5-6 PN Prescription

**STEP 12**

Click on the  button to save prescription

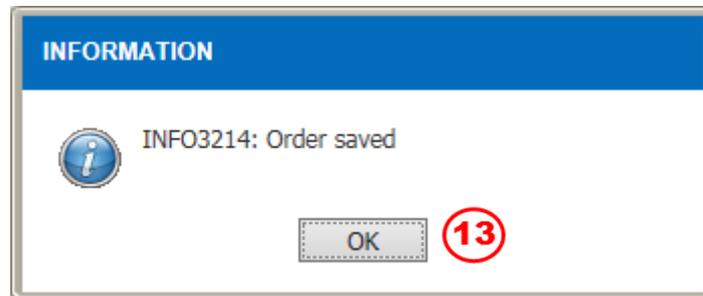
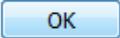


Figure 3.1.5-7 Information Alert Message

**STEP 13**

Click on the  button to save order record

**Note**

After saving the record,  button,  button,  button and  button will be displayed as per Figure 3.1.5-8.

**PN ORDER**

Calorie Calculator

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

Compounded

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight:  kg

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION**

Confirm Order Delete Prescription Modify

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.5-8 PN Prescription

**STEP 14**

Click on the Confirm Order button to confirm prescription

**Note**

- The Delete button to delete prescription.
- The Prescription button to print prescription.
- The Modify button to edit information after saved record

**CONFIRMATION**

?

CONF3219: Are you sure want to confirm the order?

Cancel Yes No

Figure 3.1.5-9 Confirmation Alert Message

**STEP 15**

Click on the Yes button to confirm record order

**PN ORDER**

Calorie Calculator

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

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight: 80 kg

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION** New Prescription Prescription

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)		24 1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.5-10 PN Order

**Note**

- Click on the  button to view/print PN prescription as Figure 3.1.5-11
- Click on the  button to order a new prescription

**Ministry Of Health, Malaysia  
Hospital Pakar Sultanah Fatimah, Muar  
PARENTERAL NUTRITION**

<b>Patient Name:</b>	MXXXXXXXX XXXX XXX XXXXXX	<b>Patient ID:</b>	930328045183
<b>Age:</b>	24 Years 09 Months 14 Days	<b>MRN:</b>	HPSF00190582
<b>Gender:</b>	Male	<b>Prescription :</b>	W2L0001087884
<b>Height / Weight /</b>	169 cm/80 kg/1.97 m <sup>2</sup>	<b>Order Date / Time</b>	11/01/2018 02:33 PM
<b>Room No / Bed:</b>		<b>Location:</b>	WAD 2 L (MED/SURG/ORTO)
<b>Diagnosis:</b>	rheumatic fever	<b>Allergy:</b>	

<b>TPN Order:</b>	PN Compounded Adult	<b>Order</b>	1 bag
<b>Start</b>	11/01/2018 05:00 PM	<b>End</b>	12/01/2018 05:00 PM

		Content / kg	Content / bag
Volume	(ml)	38.75	3100
Calorie	(kCal)	48	3840
Protein	(g)	2	160
Carbohydrate	(g)	3	240
Lipid	(g)	1	80
Sodium	(mmol)	1	80
Potassium	(mmol)	1	80
Calcium	(mmol)	0.1	8
Magnesium	(mmol)	0.1	8
Phosphate	(mmol)	0.6	48
Chloride	(mmol)	NA	NA
Acetate	(mmol)	NA	NA
Trace Element	(ml)	NA	NA
Combine Vitamin	(ml)	NA	NA
Water Soluble Vitamin	(ml)	0.09	7
Fat Soluble Vitamin	(ml)	0.06	5
L-Glutamin	(ml)	2.5	200

<b>Infusion Over:</b>	24 hr	<b>Frequency:</b>	OD
<b>Prescriber:</b>	Masnizar Bin Jamian	<b>Infusion Route:</b>	Central
<b>Designation:</b>	Pegawai Perubatan	<b>Remarks:</b>	
<b>Department:</b>	General Medicine		

**Figure 3.1.5-11 PN Order Prescription**

### 3.1.6 Compounded for Pediatric

PN Compounded allow user to order PN drug with certain information for patient between 3 years old to 12 years old.



The screenshot shows the 'PN ORDER' interface. At the top, there is a 'Calorie Calculator' button. Below it, the 'Type of PN' section has two radio buttons: 'Commercial / MOH Pre mix(Std. Soln)' and 'Compounded'. The 'Compounded' option is selected and circled in red with the number '1'. To the right, the 'PN for:' section has four radio buttons: 'Adult', 'Paediatric Infant', 'Paediatric', and 'Neonate'. The 'Paediatric' option is selected and circled in red with the number '2'. Below these, the 'Body weight type:' section has three radio buttons: 'Actual', 'Ideal', and 'Adjusted'. The 'Actual' option is selected. To the right of this section is a 'Body weight:' field with the value '80 kg'.

Figure 3.1.6-1 PN Order

#### STEP 1

Select on **Type of PN** as Compounded

#### Note

**PN for:** will be automatically based on the patient PN Reference;

- Adult : age from 13 years to 150 years
- Paediatric : age from 3 years to 12 years
- Paediatric-infant : 31 days to 2 years
- Neonate : from 1 day to 30 days

#### STEP 2

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 be change base on selected **Body Weight Type**.

PN COMPONENT				
Use Fluid Calculator	<input checked="" type="checkbox"/>			
Total volume required	80 ml/kg		2000 ml	
Total oral feeding	0 ml/kg			
TPN Volume	80 ml/kg		2000 ml	
Energy required	48 kcal/kg		3840 kcal	
<b>Macronutrient</b>		<b>Recommended range(per kg)</b>		<b>Energy(per day)</b>
Carbohydrate	3 g/kg	3.00 - 5.00 g/kg	240 g	960 kcal
Lipid	1 g/kg	0.50 - 2.00 g/kg	80 g	720 kcal
Protein	2 g/kg	0.50 - 2.00 g/kg	160 g	640 kcal
L-Glutamin	2.5 ml/kg	1.50 - 2.50 ml/kg	200 ml	160 kcal
Carbohydrate:Lipid (kcal)	57 : 43	Nitrogen Content	26 g	NPC:NRatio
				70 : 1
				Total
				2480 kcal
<b>Electrolytes</b>				
Sodium (Natrium), Na+	1 mmol/kg	1.00 - 2.00 mmol/kg	80 mmol	
Potassium (Kalium), K+	1 mmol/kg	0.70 - 1.50 mmol/kg	80 mmol	
Calcium, Ca2+	0.1 mmol/kg	0.10 - 0.15 mmol/kg	8 mmol	
Magnesium, Mg+	0.1 mmol/kg	0.05 - 0.15 mmol/kg	8 mmol	
Phosphate, (PO4)2-	0.6 mmol/kg	0.50 - 0.70 mmol/kg	48 mmol	
Chloride, Cl+		1.30 - 2.00 mmol/kg	0 mmol	
Acetate(CH3COO)		0.00 - 0.00 mmol/kg	0 mmol	
<b>Trace elements</b>		0.00 - 10.00 ml		
<b>Vitamin</b>				
<input checked="" type="radio"/> Single Vitamin				
<input type="radio"/> Combine Vitamin				
Water soluble	0.09 ml/kg	0.00 - 10.00 ml	7 ml	
Fat soluble	0.06 ml/kg	0.00 - 10.00 ml	5 ml	

Figure 3.1.6-2 PN Component

**STEP 3**

Select  **Use Fluid Calculator** check box

**Note**

By selecting **Use Fluid Calculator** check box, system will be auto calculate **Total volume required per day** based on the **Body Weight Type**

**STEP 4**

Enter value for **Total volume required by weight**

**STEP 5**

Enter value for **Total Oral Feeding per day**

**Note**

**TPN Volume** will be automatically calculated by system.

**STEP 6**

Enter value of the **Macronutrient** that applicable for the PN Component.

**Note**

- All entered value must between the **Recommended Range (per kg)**.
- 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 **By Weight** will automatically calculate and display after enter the **Trace elements Per day** value.

#### STEP 7

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

#### Note

- All entered value must between the **Recommended Range (per kg)**.
- Chloride ,Cl<sup>-</sup>** and **Acetate (CH<sub>3</sub>COO)** is optional function.
- All value **Per day** will automatically calculate and display.
- Enter value of the **Trace elements Per day**. Value **By Weight** will be automatically calculated and displayed after enter the **Trace elements Per day** value.

<input checked="" type="radio"/> Single Vitamin	<input type="radio"/> Multi Vitamin			
Water soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml	
Fat soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml	

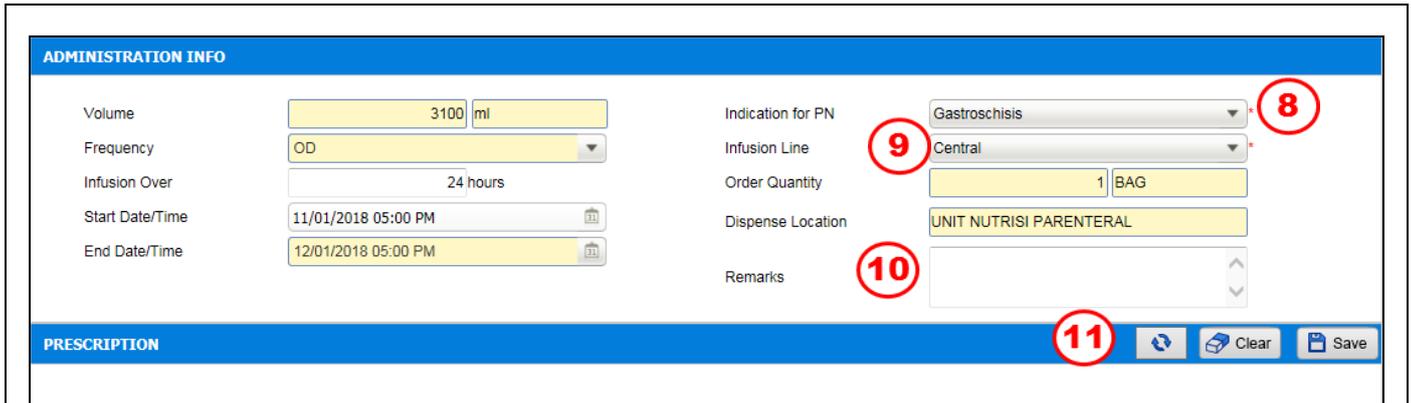
Figure 3.1.6-3 PN Component

Vitamin				
<input type="radio"/> Single Vitamin	<input checked="" type="radio"/> Combine Vitamin			
Water and Fat Soluble	<input type="text" value="0"/> ml	<input type="text" value=""/> ml	<input type="text" value="0"/> ml	

Figure 3.1.6-4 PN Component

#### Note

- Select either **Single Vitamin** or **Combine Vitamin** radio button.
- Vitamin have 2 types vitamin:
  - Single Vitamin
  - Multi Vitamin
- If user select **Single Vitamin** radio button; **Water soluble** and **Fat soluble** field will automatically display by system as per Figure 3.1.6-3.
- If user select **Combine Vitamin** radio button; **Water and Fat Soluble** field will automatically display by system as per Figure 3.1.6-4.



**ADMINISTRATION INFO**

Volume	3100 ml	Indication for PN	Gastroschisis
Frequency	OD	Infusion Line	Central
Infusion Over	24 hours	Order Quantity	1 BAG
Start Date/Time	11/01/2018 05:00 PM	Dispense Location	UNIT NUTRISI PARENTERAL
End Date/Time	12/01/2018 05:00 PM	Remarks	

**PRESCRIPTION**

Buttons: Refresh, Clear, Save

Figure 3.1.6-5 Administration Info

**STEP 8**

Enter **Indication for PN** by select from drop down box

**STEP 9**

Enter **Infusion Line** by select from drop down box

**Note**

- **Infusion Over** will be automatically default to 24 hours but user is allow to change at this field.
- **Volume, Frequency, Order Quantity and Duration** will be automatically displayed by system and user is not allow to edit this field.
- **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.
- **Dispense Location** will be automatically default by system.

**STEP 10**

Enter **Remarks** if applicable

**STEP 11**

Click on the  button to add prescription

**Note**

Prescription will display as per Figure 3.1.6-6

**PN ORDER**

Calorie Calculator

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

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight: 80 kg

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION** Clear Save

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.6-6 PN Prescription

**STEP 12**

Click on the button to save prescription

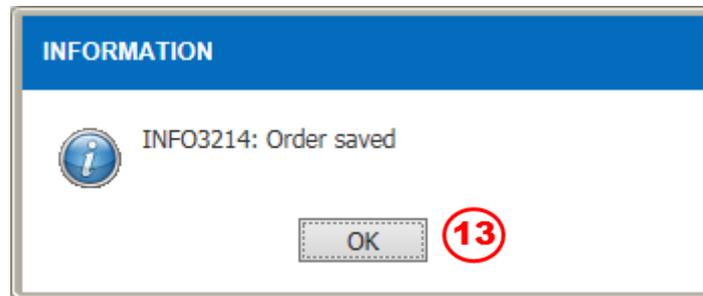


Figure 3.1.6-7 Information Alert Message

**STEP 13**

Click on the button to save order record

**Note**

After saving the record, button, button, button and button will be displayed as per Figure 3.1.6-8.

**PN ORDER**

Calorie Calculator

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

Compounded

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight:  kg

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION**

Confirm Order Delete Prescription Modify

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.6-8 PN Prescription

**STEP 14**

Click on the Confirm Order button to confirm prescription

**Note**

- The Delete button to delete prescription.
- The Prescription button to print prescription.
- The Modify button to edit information after saved record

**CONFIRMATION**

?

CONF3219: Are you sure want to confirm the order?

Cancel Yes No

Figure 3.1.6-9 Confirmation Alert Message

**STEP 15**

Click on the Yes button to confirm record order

**PN ORDER**

Calorie Calculator

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

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight: 80 kg

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION** New Prescription Prescription

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)		24 1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.6-10 PN Order

**Note**

- Click on the  button to view/print PN prescription as Figure 3.1.6-11
- Click on the  button to order a new prescription

**Ministry Of Health, Malaysia  
Hospital Pakar Sultanah Fatimah, Muar  
PARENTERAL NUTRITION**

Patient Name: [REDACTED] Patient ID: 930328045183  
 Age: [REDACTED] MRN: HPSF00190582  
 Gender: Male Prescription : W2L0001087884  
 Height / Weight / : 169 cm/80 kg/1.97 m<sup>2</sup> Order Date / Time 11/01/2018 02:33 PM  
 Room No / Bed: Location: [REDACTED]  
 Diagnosis: rheumatic fever Allergy:

---

TPN Order: PN Compounded : Order 1 bag  
 Start 11/01/2018 05:00 PM End 12/01/2018 05:00 PM

	Content / kg	Content / bag
Volume (ml)	38.75	3100
Calorie (kCal)	48	3840
Protein (g)	2	160
Carbohydrate (g)	3	240
Lipid (g)	1	80
Sodium (mmol)	1	80
Potassium (mmol)	1	80
Calcium (mmol)	0.1	8
Magnesium (mmol)	0.1	8
Phosphate (mmol)	0.6	48
Chloride (mmol)	NA	NA
Acetate (mmol)	NA	NA
Trace Element (ml)	NA	NA
Combine Vitamin (ml)	NA	NA
Water Soluble Vitamin (ml)	0.09	7
Fat Soluble Vitamin (ml)	0.06	5
L-Glutamin (ml)	2.5	200

Infusion Over: 24 hr Frequency: OD  
 Prescriber: [REDACTED] Infusion Route: Central  
 Designation: Pegawai Perubatan Remarks:  
 Department: General Medicine

Figure 3.1.6-11 PN Order Prescription

### 3.1.7 Compounded for Pediatric Infant

PN Compounded allow user to order PN drug with certain information for patient between 31 days old to 2 years old.



The screenshot shows the 'PN ORDER' form. At the top left is a 'Calorie Calculator' button. Below it, the 'Type of PN' section has two radio buttons: 'Commercial / MOH Pre mix(Std. Soln)' and 'Compounded'. A red circle with the number '1' is around the 'Compounded' radio button. To the right, the 'PN for:' section has four radio buttons: 'Adult', 'Paediatric Infant', 'Paediatric', and 'Neonate'. A red circle with the number '2' is around the 'Paediatric Infant' radio button. Below these are 'Body weight type:' radio buttons for 'Actual', 'Ideal', and 'Adjusted', and a 'Body weight:' input field with '80 kg'.

Figure 3.1.7-1 PN Order

#### STEP 1

Select on **Type of PN** as Compounded

#### Note

**PN for:** will be automatically based on the patient PN Reference;

- Adult : age from 13 years to 150 years
- Paediatric : age from 3 years to 12 years
- Paediatric-infant : 31 days to 2 years
- Neonate : from 1 day to 30 days

#### STEP 2

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 be change base on selected **Body Weight Type**.

PN COMPONENT				
Use Fluid Calculator	<input checked="" type="checkbox"/>			
Total volume required	<input type="text" value="80 ml/kg"/>		<input type="text" value="2000 ml"/>	
Total oral feeding	<input type="text" value="0 ml/kg"/>		<input type="text" value="ml"/>	
TPN Volume	<input type="text" value="80 ml/kg"/>		<input type="text" value="2000 ml"/>	
Energy required	<input type="text" value="48 kcal/kg"/>		<input type="text" value="3840 kcal"/>	
<b>Macronutrient</b>		<b>Recommended range(per kg)</b>		<b>Energy(per day)</b>
Carbohydrate	<input type="text" value="3 g/kg"/>	<input type="text" value="3.00 - 5.00 g/kg"/>	<input type="text" value="240 g"/>	<input type="text" value="960 kcal"/>
Lipid	<input type="text" value="1 g/kg"/>	<input type="text" value="0.50 - 2.00 g/kg"/>	<input type="text" value="80 g"/>	<input type="text" value="720 kcal"/>
Protein	<input type="text" value="2 g/kg"/>	<input type="text" value="0.50 - 2.00 g/kg"/>	<input type="text" value="160 g"/>	<input type="text" value="640 kcal"/>
L-Glutamin	<input type="text" value="2.5 ml/kg"/>	<input type="text" value="1.50 - 2.50 ml/kg"/>	<input type="text" value="200 ml"/>	<input type="text" value="160 kcal"/>
Carbohydrate:Lipid (kcal)	<input type="text" value="57 : 43"/>	Nitrogen Content	<input type="text" value="26 g"/>	NPC:NRatio
			<input type="text" value="70 : 1"/>	Total
				<input type="text" value="2480 kcal"/>
<b>Electrolytes</b>				
Sodium (Natrium), Na+	<input type="text" value="1 mmol/kg"/>	<input type="text" value="1.00 - 2.00 mmol/kg"/>	<input type="text" value="80 mmol"/>	
Potassium (Kalium), K+	<input type="text" value="1 mmol/kg"/>	<input type="text" value="0.70 - 1.50 mmol/kg"/>	<input type="text" value="80 mmol"/>	
Calcium, Ca2+	<input type="text" value="0.1 mmol/kg"/>	<input type="text" value="0.10 - 0.15 mmol/kg"/>	<input type="text" value="8 mmol"/>	
Magnesium, Mg+	<input type="text" value="0.1 mmol/kg"/>	<input type="text" value="0.05 - 0.15 mmol/kg"/>	<input type="text" value="8 mmol"/>	
Phosphate, (PO4)2-	<input type="text" value="0.6 mmol/kg"/>	<input type="text" value="0.50 - 0.70 mmol/kg"/>	<input type="text" value="48 mmol"/>	
Chloride, Cl+	<input type="text" value="mmol/kg"/>	<input type="text" value="1.30 - 2.00 mmol/kg"/>	<input type="text" value="0 mmol"/>	
Acetate(CH3COO)	<input type="text" value="mmol/kg"/>	<input type="text" value="0.00 - 0.00 mmol/kg"/>	<input type="text" value="0 mmol"/>	
<b>Trace elements</b>	<input type="text" value="ml/kg"/>	<input type="text" value="0.00 - 10.00 ml"/>	<input type="text" value="ml"/>	
<b>Vitamin</b>				
<input checked="" type="radio"/> Single Vitamin		<input type="radio"/> Combine Vitamin		
Water soluble	<input type="text" value="0.09 ml/kg"/>	<input type="text" value="0.00 - 10.00 ml"/>	<input type="text" value="7 ml"/>	
Fat soluble	<input type="text" value="0.06 ml/kg"/>	<input type="text" value="0.00 - 10.00 ml"/>	<input type="text" value="5 ml"/>	

Figure 3.1.7-2 PN Component

**STEP 3**

Select  **Use Fluid Calculator** check box

**Note**

By selecting **Use Fluid Calculator** check box, system will be auto calculate **Total volume required per day** based on the **Body Weight Type**

**STEP 4**

Enter value for **Total volume required by weight**

**STEP 5**

Enter value for **Total Oral Feeding per day**

**Note**

**TPN Volume** will be automatically calculated by system.

**STEP 6**

Enter value of the **Macronutrient** that applicable for the PN Component.

**Note**

- All entered value must between the **Recommended Range (per kg)**.
- 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 **By Weight** will automatically calculate and display after enter the **Trace elements Per day** value.

#### STEP 7

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

#### Note

- All entered value must between the **Recommended Range (per kg)**.
- Chloride ,Cl<sup>-</sup>** and **Acetate (CH<sub>3</sub>COO)** is optional function.
- All value **Per day** will automatically calculate and display.
- Enter value of the **Trace elements Per day**. Value **By Weight** will be automatically calculated and displayed after enter the **Trace elements Per day** value.

<input checked="" type="radio"/> Single Vitamin	<input type="radio"/> Multi Vitamin			
Water soluble	<input type="text" value="0"/>	ml	<input type="text"/>	ml
Fat soluble	<input type="text" value="0"/>	ml	<input type="text"/>	ml

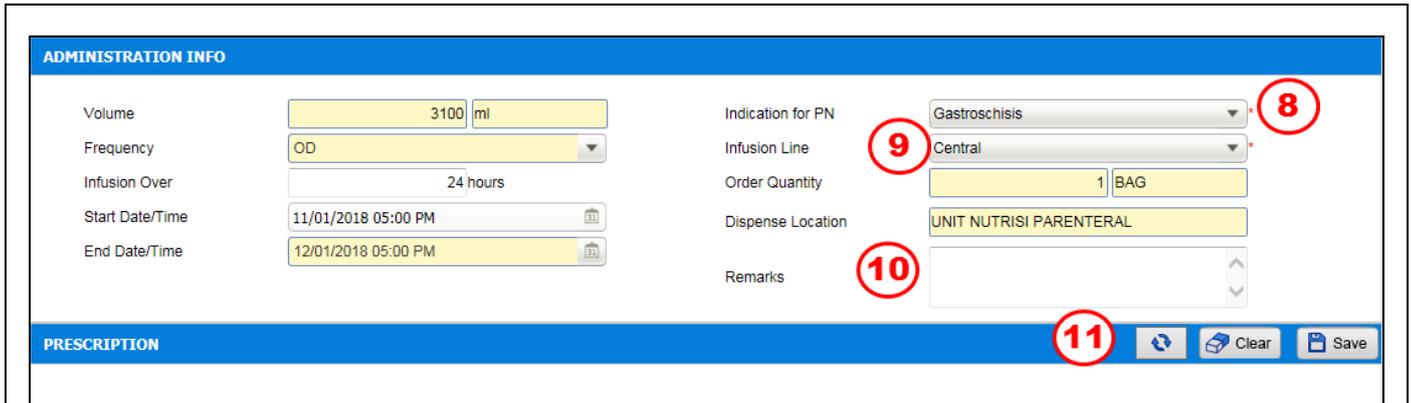
Figure 3.1.7-3 PN Component

Vitamin				
<input type="radio"/> Single Vitamin	<input checked="" type="radio"/> Combine Vitamin			
Water and Fat Soluble	<input type="text" value="0"/>	ml	<input type="text"/>	ml

Figure 3.1.7-4 PN Component

#### Note

- Select either **Single Vitamin** or **Combine Vitamin** radio button.
- Vitamin have 2 types vitamin:
  - Single Vitamin
  - Multi Vitamin
- If user select **Single Vitamin** radio button; **Water soluble** and **Fat soluble** field will automatically display by system as per Figure 3.1.7-3.
- If user select **Combine Vitamin** radio button; **Water and Fat Soluble** field will automatically display by system as per Figure 3.1.7-4.



**ADMINISTRATION INFO**

Volume	3100 ml	Indication for PN	Gastroschisis
Frequency	OD	Infusion Line	Central
Infusion Over	24 hours	Order Quantity	1 BAG
Start Date/Time	11/01/2018 05:00 PM	Dispense Location	UNIT NUTRISI PARENTERAL
End Date/Time	12/01/2018 05:00 PM	Remarks	

**PRESCRIPTION**

Buttons: Refresh, Clear, Save

Figure 3.1.7-5 Administration Info

**STEP 8**

Enter **Indication for PN** by select from drop down box

**STEP 9**

Enter **Infusion Line** by select from drop down box

**Note**

- **Infusion Over** will be automatically default to 24 hours but user is allow to change at this field.
- **Volume, Frequency, Order Quantity and Duration** will be automatically displayed by system and user is not allow to edit this field.
- **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.
- **Dispense Location** will be automatically default by system.

**STEP 10**

Enter **Remarks** if applicable

**STEP 11**

Click on the  button to add prescription

**Note**

Prescription will display as per Figure 3.1.7-6

PN COMPONENT									
ADMINISTRATION INFO									
PRESCRIPTION									
Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.7-6 PN Prescription

STEP 12

Click on the button to save prescription

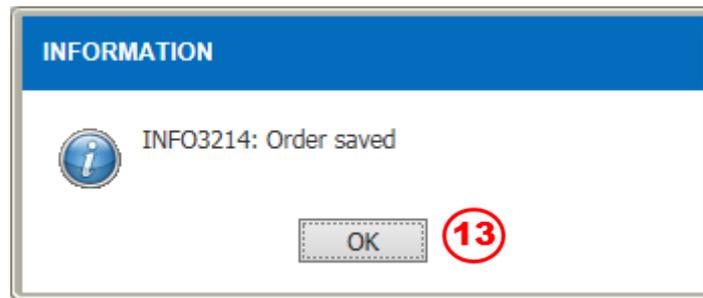


Figure 3.1.7-7 Information Alert Message

STEP 13

Click on the button to save order record

**Note**

After saving the record, button, button, button and button will be displayed as per Figure 3.1.7-8.

PN COMPONENT									
ADMINISTRATION INFO									
PRESCRIPTION									
Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.7-8 PN Prescription

STEP 14

Click on the button to confirm prescription

**Note**

- The button to delete prescription.
- The button to print prescription.

- The  button to edit information after saved record

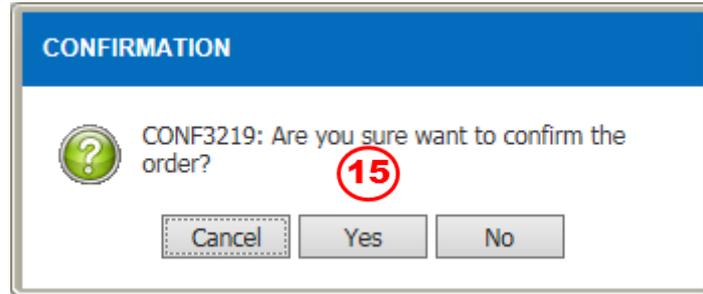
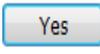
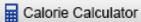


Figure 3.1.7-9 Confirmation Alert Message

**STEP 15**

Click on the  button to confirm record order

**PN ORDER**

 Calorie Calculator

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

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight:  kg

---

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION**  

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)		24 1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.7-10 PN Order

**Note**

- Click on the  button to view/print PN prescription as Figure 3.1.7-11
- Click on the  button to order a new prescription

**Ministry Of Health, Malaysia**  
**Hospital Pakar Sultanah Fatimah, Muar**  
**PARENTERAL NUTRITION**

Patient Name: [REDACTED] Patient ID: 930328045183  
Age: [REDACTED] MRN: HPSF00190582  
Gender: Male Prescription : W2L0001087884  
Height / Weight / : 169 cm/80 kg/1.97 m<sup>2</sup> Order Date / Time 11/01/2018 02:33 PM  
Room No / Bed: Location: [REDACTED]  
Diagnosis: rheumatic fever Allergy:

---

TPN Order: PN Compounded : Order 1 bag  
Start 11/01/2018 05:00 PM End 12/01/2018 05:00 PM

	Content / kg	Content / bag
Volume (ml)	38.75	3100
Calorie (kCal)	48	3840
Protein (g)	2	160
Carbohydrate (g)	3	240
Lipid (g)	1	80
Sodium (mmol)	1	80
Potassium (mmol)	1	80
Calcium (mmol)	0.1	8
Magnesium (mmol)	0.1	8
Phosphate (mmol)	0.6	48
Chloride (mmol)	NA	NA
Acetate (mmol)	NA	NA
Trace Element (ml)	NA	NA
Combine Vitamin (ml)	NA	NA
Water Soluble Vitamin (ml)	0.09	7
Fat Soluble Vitamin (ml)	0.06	5
L-Glutamin (ml)	2.5	200

Infusion Over: 24 hr Frequency: OD  
Prescriber: [REDACTED] Infusion Route: Central  
Designation: Pegawai Perubatan Remarks:  
Department: General Medicine

Figure 3.1.7-11 PN Order Prescription

### 3.1.8 Compounded for Neonate

Compounded (Neonate) allow user to add ingredients under PN component based on patient nutrition level for patient 1 day old to 30 days old.

Figure 3.1.8-1 PN Order

#### STEP 1

Select on **Type of PN** as Compounded

#### Note

**PN for:** will be automatically based on the patient PN Reference;

- Adult : age from 13 years to 150 years
- Paediatric : age from 3 years to 12 years
- Paediatric-infant : 31 days to 2 years
- Neonate : from 1 day to 30 days

#### STEP 2

Enter value for **Birth weight** and **Current weight**

By		Per day	
Use Fluid Calculator	<input checked="" type="checkbox"/>		
Total volume required	100 ml/kg	300 ml	
Total oral feeding	0 ml/kg		
TPN Volume	100 ml/kg	300 ml	
Energy required	48 kcal/kg	3840 kcal	
Macronutrient	Recommended range(per kg)		Energy(per day)
Carbohydrate	3 g/kg	3.00 - 5.00 g/kg	240 g / 960 kcal
Lipid	1 g/kg	0.50 - 2.00 g/kg	80 g / 720 kcal
Protein	2 g/kg	0.50 - 2.00 g/kg	160 g / 640 kcal
L-Glutamin	2.5 ml/kg	1.50 - 2.50 ml/kg	200 ml / 160 kcal
Carbohydrate:Lipid (kcal)	57 : 43	Nitrogen Content	26 g
		NPC:NRatio	70 : 1
		Total	2480 kcal
Electrolytes			
Sodium (Natrium),Na+	1 mmol/kg	1.00 - 2.00 mmol/kg	80 mmol
Potassium (Kalium),K+	1 mmol/kg	0.70 - 1.50 mmol/kg	80 mmol
Calcium,Ca2+	0.1 mmol/kg	0.10 - 0.15 mmol/kg	8 mmol
Magnesium,Mg+	0.1 mmol/kg	0.05 - 0.15 mmol/kg	8 mmol
Phosphate,(PO4)2-	0.6 mmol/kg	0.50 - 0.70 mmol/kg	48 mmol
Chloride,Cl+	mmol/kg	1.30 - 2.00 mmol/kg	0 mmol
Acetate(CH3COO)	mmol/kg	0.00 - 0.00 mmol/kg	0 mmol
Trace elements	ml/kg	0.00 - 10.00 ml	ml
<b>Vitamin</b>			
<input checked="" type="radio"/> Single Vitamin <input type="radio"/> Combine Vitamin			
Water soluble	0.09 ml/kg	0.00 - 10.00 ml	7 ml
Fat soluble	0.06 ml/kg	0.00 - 10.00 ml	5 ml

Figure 3.1.8-2 PN Component

#### STEP 3

Select  **Use Fluid Calculator** check box

**Note**

By selecting **Use Fluid Calculator** check box, system will be auto calculate **Total volume required per day** based on the **Body Weight Type**

**STEP 4**

Enter value for **Total volume required by weight**

**STEP 5**

Enter value for **Total Oral Feeding per day**

**Note**

**TPN Volume** will be automatically calculated by system.

**STEP 6**

Enter value of the **Macronutrient** that applicable for the PN Component.

**Note**

- All entered value must between the **Recommended Range (per kg)**.
- 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 **By Weight** will automatically calculate and display after enter the **Trace elements Per day** value.

**STEP 7**

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

**Note**

- All entered value must between the **Recommended Range (per kg)**.
- **Chloride ,Cl<sup>-</sup>** and **Acetate (CH<sub>3</sub>COO)** is optional function.
- All value **Per day** will automatically calculate and display.
- Enter value of the **Trace elements Per day**. Value **By Weight** will be automatically calculated and displayed after enter the **Trace elements Per day** value.

<input checked="" type="radio"/> Single Vitamin	<input type="radio"/> Multi Vitamin			
Water soluble	<input type="text" value="0 ml"/>	<input type="text" value="ml"/>	<input type="text" value="0 ml"/>	
Fat soluble	<input type="text" value="0 ml"/>	<input type="text" value="ml"/>	<input type="text" value="0 ml"/>	

Figure 3.1.8-3 PN Component

Vitamin				
<input type="radio"/> Single Vitamin	<input checked="" type="radio"/> Combine Vitamin			
Water and Fat Soluble	<input type="text" value="0 ml"/>	<input type="text" value="ml"/>	<input type="text" value="0 ml"/>	

Figure 3.1.8-4 PN Component

**Note**

- Select either **Single Vitamin** or **Combine Vitamin** radio button.
- Vitamin have 2 types vitamin:
  - Single Vitamin
  - Multi Vitamin
- If user select **Single Vitamin** radio button; **Water soluble** and **Fat soluble** field will automatically display by system as per Figure 3.1.8-3.
- If user select **Combine Vitamin** radio button; **Water and Fat Soluble** field will automatically display by system as per Figure 3.1.8-4.

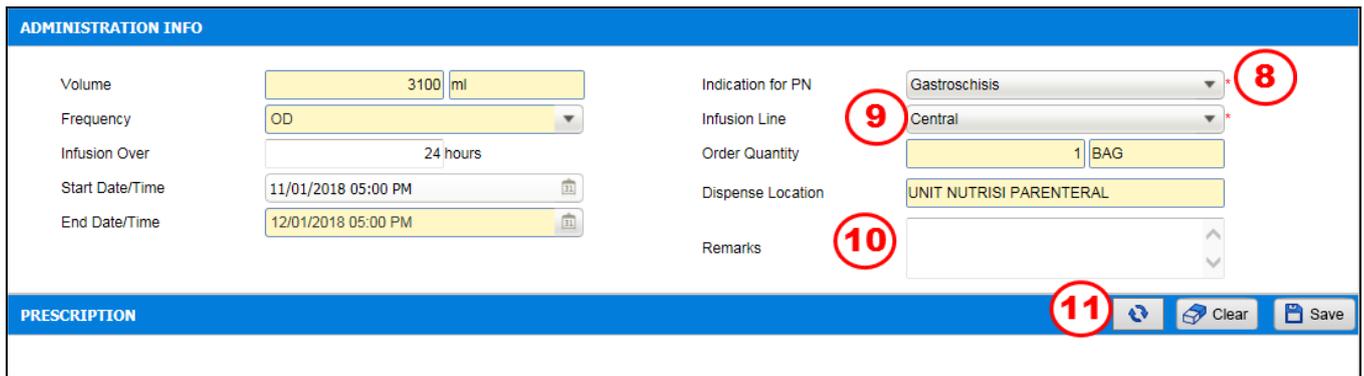


Figure 3.1.8-5 Administration Info

**STEP 8**

Enter **Indication for PN** by select from drop down box

**STEP 9**

Enter **Infusion Line** by select from drop down box

**Note**

- **Infusion Over** will be automatically default to 24 hours but user is allow to change at this field.
- **Volume, Frequency, Order Quantity and Duration** will be automatically displayed by system and user is not allow to edit this field.
- **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.
- **Dispense Location** will be automatically default by system.

**STEP 10**

Enter **Remarks** if applicable

**STEP 11**

Click on the  button to add prescription

**Note**

Prescription will display as per Figure 3.1.8-6

PN COMPONENT									
ADMINISTRATION INFO									
PRESCRIPTION									
Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.8-6 PN Prescription

STEP 12

Click on the button to save prescription

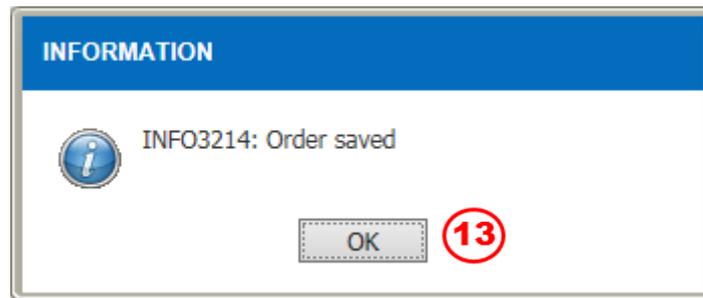


Figure 3.1.8-7 Information Alert Message

STEP 13

Click on the button to save order record

**Note**

After saving the record, button, button, button and button will be displayed as per Figure 3.1.8-8.

PN COMPONENT									
ADMINISTRATION INFO									
PRESCRIPTION									
Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)	24	1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.8-8 PN Prescription

STEP 14

Click on the button to confirm prescription

**Note**

- The button to delete prescription.
- The button to print prescription.

- The  button to edit information after saved record

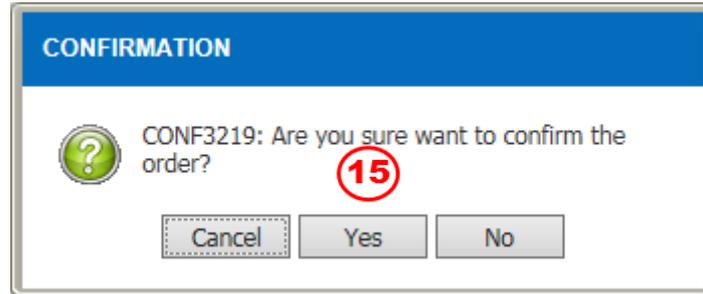
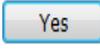


Figure 3.1.8-9 Confirmation Alert Message

**STEP 15**

Click on the  button to confirm record order

**PN ORDER**

 Calorie Calculator

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

PN for:  Adult  Paediatric Infant  Paediatric  Neonate

Body weight type:  Actual  Ideal  Adjusted Body weight:  kg

**PN COMPONENT**

**ADMINISTRATION INFO**

**PRESCRIPTION**  

Drug Name	Total Volume ml per kg (ml)	Total calorie kcal per kg (kcal)	Infusion Over (hour)	Quantity	Freq	Duration	Start date	End date	
PN Compounded Adult	38.75 (3100)	31 (2480)		24 1 BAG	OD	1 Days	11/01/2018 05:00 PM	12/01/2018 05:00 PM	
Phosphate mmol per kg (mmol)	Sodium mmol per kg (mmol)	Potassium mmol per kg (mmol)	Calcium mmol per kg (mmol)	Magnesium mmol per kg (mmol)	Acetate mmol per kg (mmol)	Trace Element ml per kg (ml)	Fat Soluble Vit. ml per kg (ml)	Water Soluble Vit. ml per kg (ml)	Combine Vitamin ml per kg (ml)
0.6 (48)	1 (80)	1 (80)	0.1 (8)	0.1 (8)	NA	NA	0.06 (5)	0.09 (7)	NA
Protein g per kg (g)	Carbohydrate g per kg (g)	Carbohydrate %	Lipid g per kg (g)	L-Glutamin ml per kg (ml)	Calorie Calculator	Infusion Line			
2 (160)	3 (240)	NA	1 (80)	2.5 (200)	NA	Central			

Figure 3.1.8-10 PN Order

**Note**

- Click on the  button to view/print PN prescription as Figure 3.1.8 -11
- Click on the  button to order a new prescription

**Ministry Of Health, Malaysia  
Hospital Pakar Sultanah Fatimah, Muar  
PARENTERAL NUTRITION**

Patient Name: [REDACTED] Patient ID: 930328045183  
 Age: [REDACTED] MRN: HPSF00190582  
 Gender: Male Prescription : W2L0001087884  
 Height / Weight / : 169 cm/80 kg/1.97 m<sup>2</sup> Order Date / Time 11/01/2018 02:33 PM  
 Room No / Bed: Location: [REDACTED]  
 Diagnosis: rheumatic fever Allergy:

---

TPN Order: PN Compounded : Order 1 bag  
 Start 11/01/2018 05:00 PM End 12/01/2018 05:00 PM

	Content / kg	Content / bag
Volume (ml)	38.75	3100
Calorie (kCal)	48	3840
Protein (g)	2	160
Carbohydrate (g)	3	240
Lipid (g)	1	80
Sodium (mmol)	1	80
Potassium (mmol)	1	80
Calcium (mmol)	0.1	8
Magnesium (mmol)	0.1	8
Phosphate (mmol)	0.6	48
Chloride (mmol)	NA	NA
Acetate (mmol)	NA	NA
Trace Element (ml)	NA	NA
Combine Vitamin (ml)	NA	NA
Water Soluble Vitamin (ml)	0.09	7
Fat Soluble Vitamin (ml)	0.06	5
L-Glutamin (ml)	2.5	200

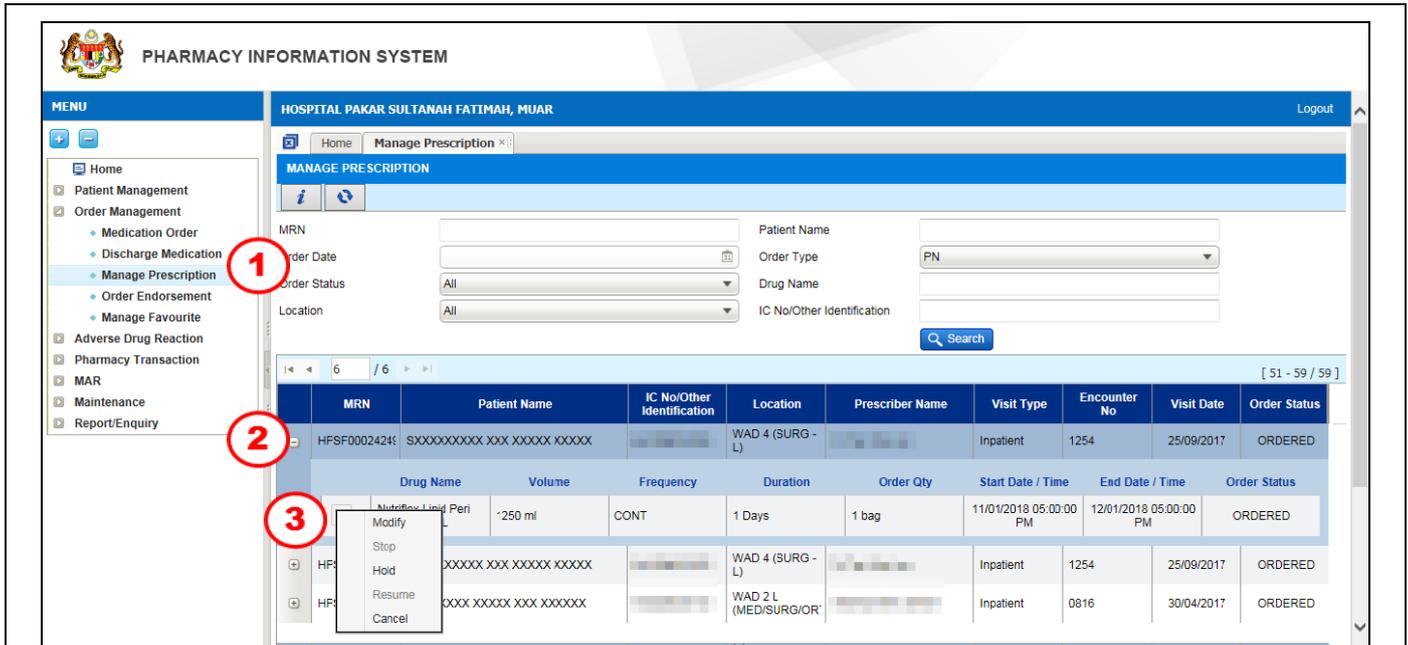
Infusion Over: 24 hr Frequency: OD  
 Prescriber: [REDACTED] Infusion Route: Central  
 Designation: Pegawai Perubatan Remarks:  
 Department: General Medicine

Figure 3.1.8-11 PN Order Prescription

## 3.2 Manage Prescription

### 3.2.1 Modify Order

Modify Order screen allow user to modify prescription or drugs details before verify the order.



**PHARMACY INFORMATION SYSTEM**  
HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

Home | Manage Prescription

**MANAGE PRESCRIPTION**

MRN:  Patient Name:   
 Order Date:  Order Type:   
 Order Status:  Drug Name:   
 Location:  IC No/Other Identification:

MRN	Patient Name	IC No/Other Identification	Location	Prescriber Name	Visit Type	Encounter No	Visit Date	Order Status																
HFSF0002424	SXXXXXXXXX XXX XXXXX XXXXX		WAD 4 (SURG - L)		Inpatient	1254	25/09/2017	ORDERED																
<table border="1"> <thead> <tr> <th>Drug Name</th> <th>Volume</th> <th>Frequency</th> <th>Duration</th> <th>Order Qty</th> <th>Start Date / Time</th> <th>End Date / Time</th> <th>Order Status</th> </tr> </thead> <tbody> <tr> <td>Nutriflow-Liq Peri</td> <td>1250 ml</td> <td>CONT</td> <td>1 Days</td> <td>1 bag</td> <td>11/01/2018 05:00:00 PM</td> <td>12/01/2018 05:00:00 PM</td> <td>ORDERED</td> </tr> </tbody> </table>									Drug Name	Volume	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status	Nutriflow-Liq Peri	1250 ml	CONT	1 Days	1 bag	11/01/2018 05:00:00 PM	12/01/2018 05:00:00 PM	ORDERED
Drug Name	Volume	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status																	
Nutriflow-Liq Peri	1250 ml	CONT	1 Days	1 bag	11/01/2018 05:00:00 PM	12/01/2018 05:00:00 PM	ORDERED																	
HFS	XXXXXXXX XXX XXXXX XXXXX		WAD 4 (SURG - L)		Inpatient	1254	25/09/2017	ORDERED																
HFS	XXXX XXXXX XXX XXXXX		WAD 2 L (MED/SURG/OR)		Inpatient	0816	30/04/2017	ORDERED																

Figure 3.2.1-1 Manage Order

#### STEP 1

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

#### Note

- Various search criteria is provided as below:
  - MRN
  - Patient Name
  - Order Date
  - Order Type
  - Order Status
  - Drug name
  - Location
- Order Type choose as PN

#### STEP 2

Click on the  expand button to display order details as per Figure 3.2.1-1

#### STEP 3

Right click mouse on the  button and select **Modify** as per Figure 3.2.1-1

#### Note

- PN Manage Prescription screen will be displayed as per Figure 3.2.1-2.

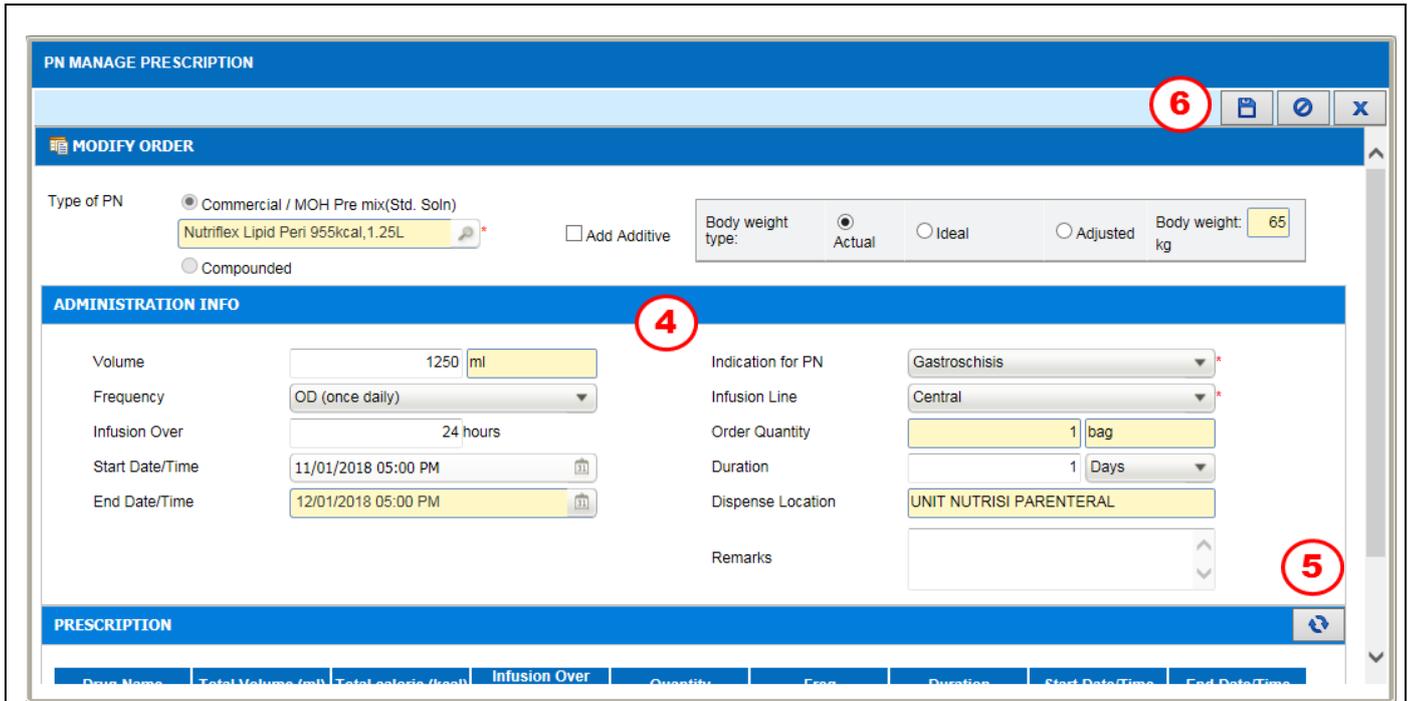


Figure 3.2.1-2 Drug Details

**STEP 4**

Edit the necessary information

**STEP 5**

Click on the  button to update the edited information into the prescription

**STEP 6**

Click on the  button to save the record and confirmation alert will displayed as Figure 3.2.1-3

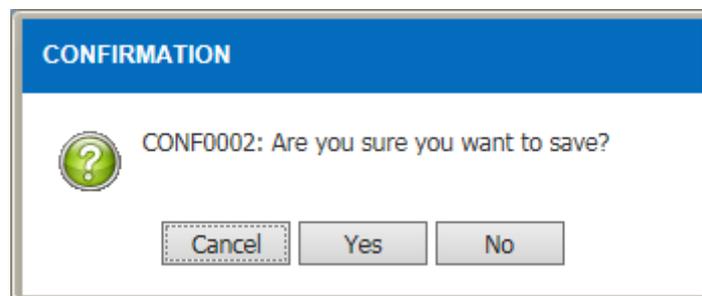
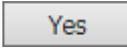


Figure 3.2.1-3 Confirmation Alert

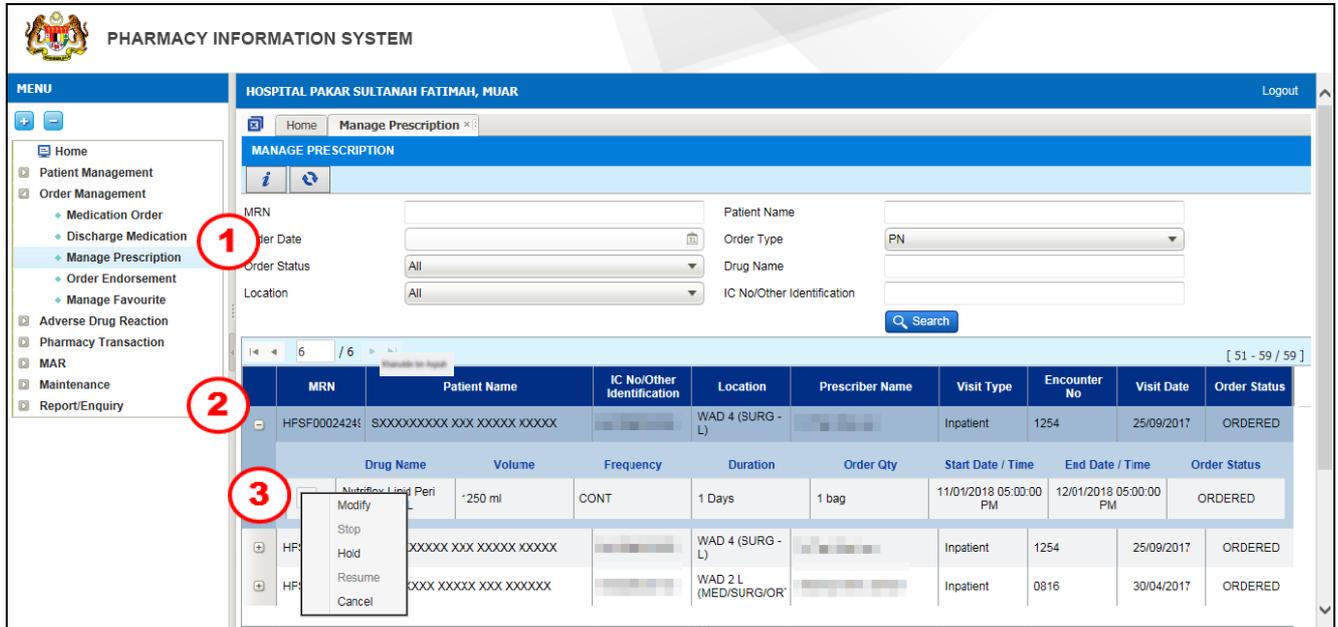
**Note**

Click on the  button to save the record

### 3.2.2 Hold and Resume Order

Hold and Resume order screen allow user to hold order before verify order and to hold and suspicious prescription. Also to resume back the hold order. User need to enter reason to hold order in remarks.

#### Hold Order



**PHARMACY INFORMATION SYSTEM**

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

Home Manage Prescription x

**MANAGE PRESCRIPTION**

MRN:  Patient Name:   
 Order Date:  Order Type:   
 Order Status:  Drug Name:   
 Location:  IC No/Other Identification:

Search

MRN	Patient Name	IC No/Other Identification	Location	Prescriber Name	Visit Type	Encounter No	Visit Date	Order Status																
HFSF0002424	SXXXXXXXX XXX XXXXX XXXXX		WAD 4 (SURG - L)		Inpatient	1254	25/09/2017	ORDERED																
<table border="1"> <thead> <tr> <th>Drug Name</th> <th>Volume</th> <th>Frequency</th> <th>Duration</th> <th>Order Qty</th> <th>Start Date / Time</th> <th>End Date / Time</th> <th>Order Status</th> </tr> </thead> <tbody> <tr> <td>XXXXXXXXXX</td> <td>250 ml</td> <td>CONT</td> <td>1 Days</td> <td>1 bag</td> <td>11/01/2018 05:00:00 PM</td> <td>12/01/2018 05:00:00 PM</td> <td>ORDERED</td> </tr> </tbody> </table>									Drug Name	Volume	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status	XXXXXXXXXX	250 ml	CONT	1 Days	1 bag	11/01/2018 05:00:00 PM	12/01/2018 05:00:00 PM	ORDERED
Drug Name	Volume	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status																	
XXXXXXXXXX	250 ml	CONT	1 Days	1 bag	11/01/2018 05:00:00 PM	12/01/2018 05:00:00 PM	ORDERED																	
HFSF0002424	XXXXXXXXXX XXX XXXXX XXXXX		WAD 4 (SURG - L)		Inpatient	1254	25/09/2017	ORDERED																
HFSF0002424	XXXXXXXXXX XXX XXXXX XXXXX		WAD 2 L (MED/SURG/OR)		Inpatient	0816	30/04/2017	ORDERED																

Context Menu: Modify, Stop, Hold, Resume, Cancel

Figure 3.2.2-1 Hold Order

#### STEP 1

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

#### Note

- Various search criteria is provided as below:
  - h) MRN
  - i) Patient Name
  - j) Order Date
  - k) Order Type
  - l) Order Status
  - m) Drug name
  - n) Location
- Order Type choose as PN

#### STEP 2

Click on the  expand button to display order details as per Figure 3.2.2-1

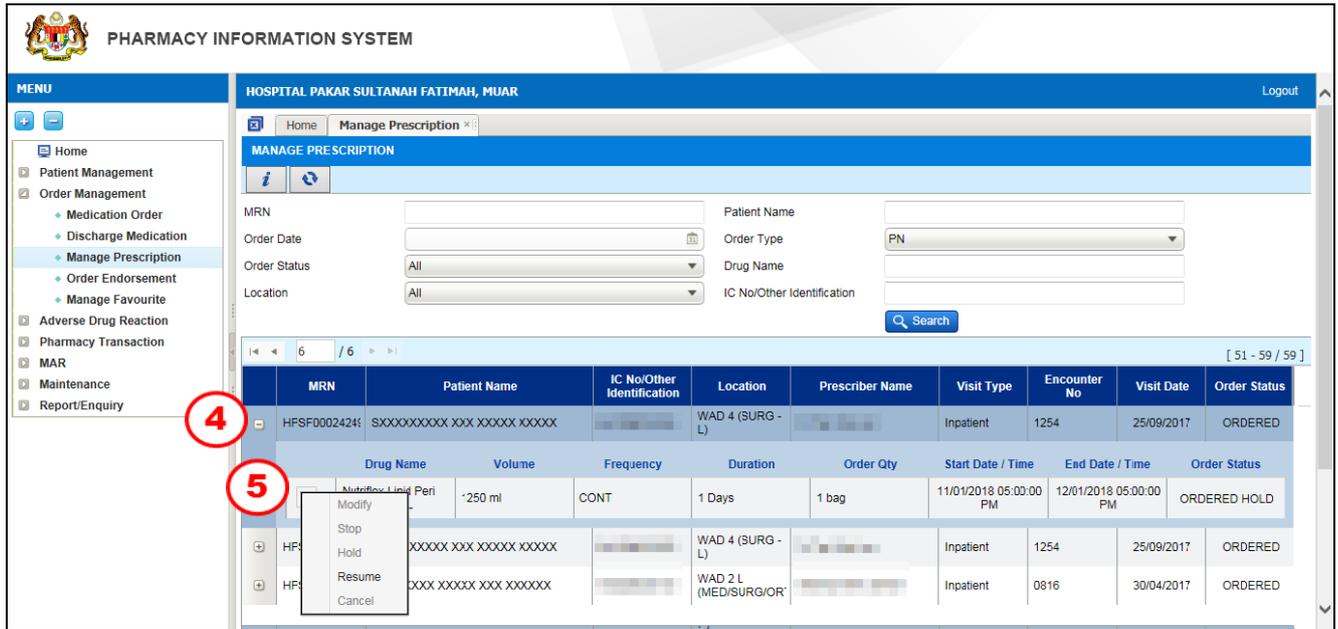
#### STEP 3

Right click mouse on the  button and select **Hold** as per Figure 3.2.2-1

#### Note

- System will hold order from dispensing and changed **Order Status** to **Ordered Hold**.

## Resume Order



PHARMACY INFORMATION SYSTEM

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

Home Manage Prescription x Logout

MANAGE PRESCRIPTION

MRN: [input field] Patient Name: [input field]  
Order Date: [input field] Order Type: PN  
Order Status: All Drug Name: [input field]  
Location: All IC No/Other Identification: [input field]

Search

MRN	Patient Name	IC No/Other Identification	Location	Prescriber Name	Visit Type	Encounter No	Visit Date	Order Status
HFSF0002424	SXXXXXXXX XXX XXXXX XXXXX	[blacked out]	WAD 4 (SURG - L)	[blacked out]	Inpatient	1254	25/09/2017	ORDERED

Drug Name	Volume	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status
NutriFlow-Linac Peri	1250 ml	CONT	1 Days	1 bag	11/01/2018 05:00:00 PM	12/01/2018 05:00:00 PM	ORDERED HOLD

Dropdown menu options: Modify, Stop, Hold, Resume, Cancel

Figure 3.2.2-2 Resume Order

### STEP 4

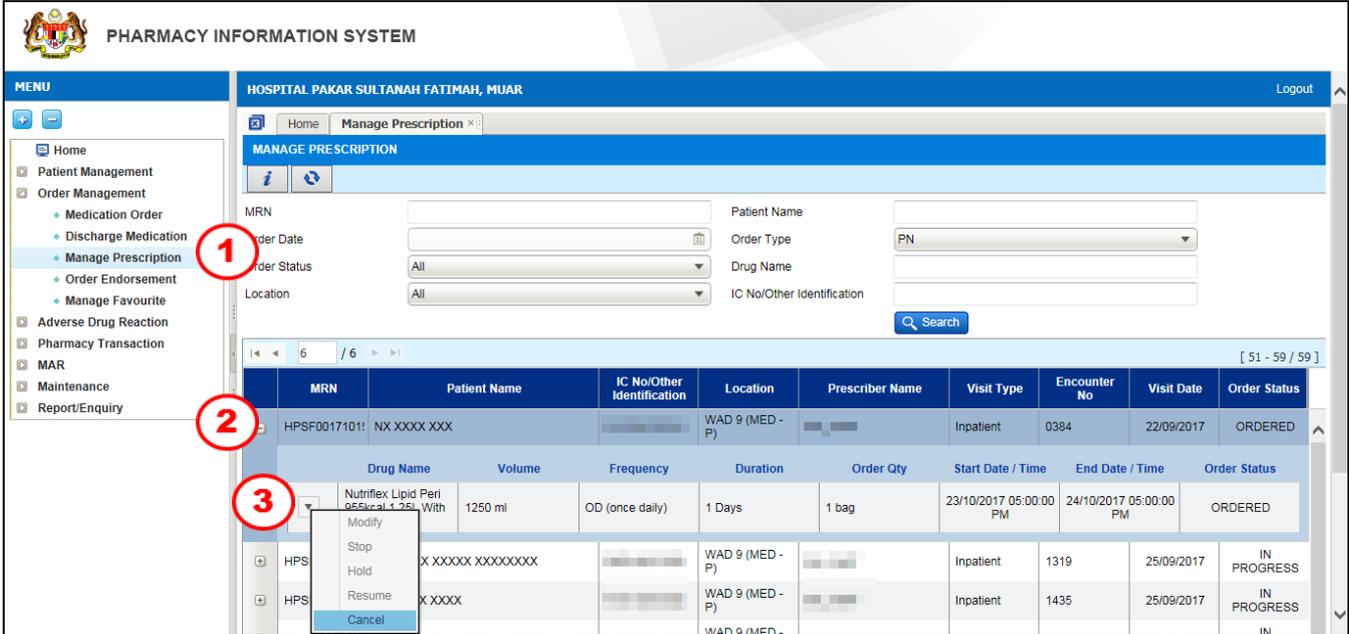
Click on the  expand button to display order details as per Figure 3.2.2-2

### STEP 5

Right click mouse on the  button and select **Resume** as per Figure 3.2.2-2

### 3.2.3 Cancel / Stop Order

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



**PHARMACY INFORMATION SYSTEM**

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

Home Manage Prescription x

**MANAGE PRESCRIPTION**

MRN:  Patient Name:   
 Order Date:  Order Type:   
 Order Status:  Drug Name:   
 Location:  IC No/Other Identification:

Search

MRN	Patient Name	IC No/Other Identification	Location	Prescriber Name	Visit Type	Encounter No	Visit Date	Order Status																
HPSF0017101!	NX XXXX XXX		WAD 9 (MED - P)		Inpatient	0384	22/09/2017	ORDERED																
<table border="1"> <thead> <tr> <th>Drug Name</th> <th>Volume</th> <th>Frequency</th> <th>Duration</th> <th>Order Qty</th> <th>Start Date / Time</th> <th>End Date / Time</th> <th>Order Status</th> </tr> </thead> <tbody> <tr> <td>Nutriflex Lipid Peri 95kcal 1.25L With</td> <td>1250 ml</td> <td>OD (once daily)</td> <td>1 Days</td> <td>1 bag</td> <td>23/10/2017 05:00:00 PM</td> <td>24/10/2017 05:00:00 PM</td> <td>ORDERED</td> </tr> </tbody> </table>									Drug Name	Volume	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status	Nutriflex Lipid Peri 95kcal 1.25L With	1250 ml	OD (once daily)	1 Days	1 bag	23/10/2017 05:00:00 PM	24/10/2017 05:00:00 PM	ORDERED
Drug Name	Volume	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status																	
Nutriflex Lipid Peri 95kcal 1.25L With	1250 ml	OD (once daily)	1 Days	1 bag	23/10/2017 05:00:00 PM	24/10/2017 05:00:00 PM	ORDERED																	
HPS	X XXXXX XXXXXXXX		WAD 9 (MED - P)		Inpatient	1319	25/09/2017	IN PROGRESS																
HPS	X XXXX		WAD 9 (MED - P)		Inpatient	1435	25/09/2017	IN PROGRESS																

Figure 3.2.3-1 Manage Prescription

**STEP 1**

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

**Note**

- Various search criteria is provided as below:
  - o) MRN
  - p) Patient Name
  - q) Order Date
  - r) Order Type
  - s) Order Status
  - t) Drug name
  - u) Location
- Order Type choose as PN

**STEP 2**

Click on the  expand button to display order details

**STEP 3**

Right click mouse on the  button and select **Cancel** and system will displayed cancel reason window as Figure 3.2.3-2

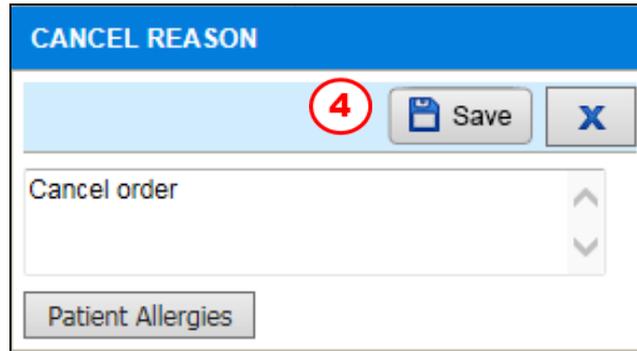


Figure 3.2.3-2 Cancel Reason

**STEP 4**

Enter cancel reason and click on the  Save button

**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 3.2.3-2.
- Select **Stop** function to stop order that has dispensed to patient

### 3.3 Order Endorsement

Order Endorsement screen allow user to endorse the prescription.

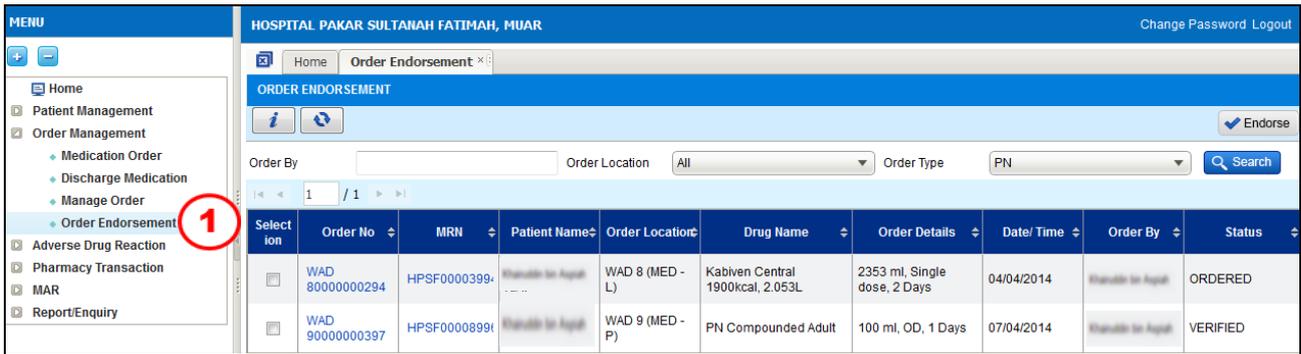


Figure 3.3-1 Medication Order Endorsement

#### STEP 1

Click on 'Order Management' menu and click on 'Order Endorsement' sub-menu

#### Note

Various search criteria is provided as below:

- a) Order By
- b) Order Location
- c) Order Type

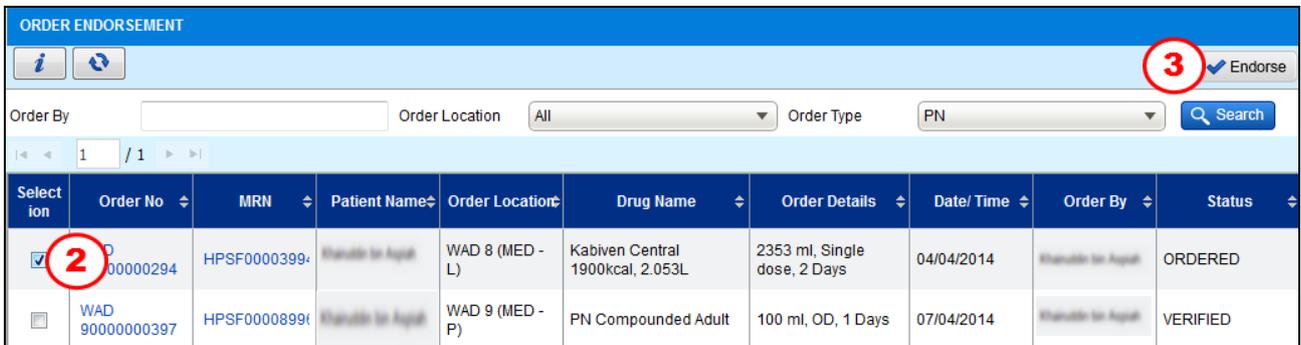


Figure 3.3-2 Medication Order Endorsement

#### STEP 2

Click the  selection checkbox as per Figure 3.3-2

#### STEP 3

Click on the  Endorse button to confirm endorsement order

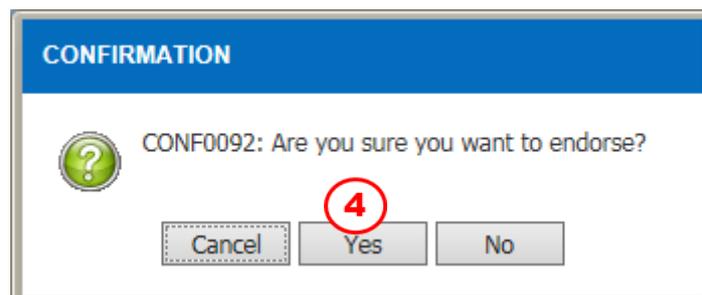
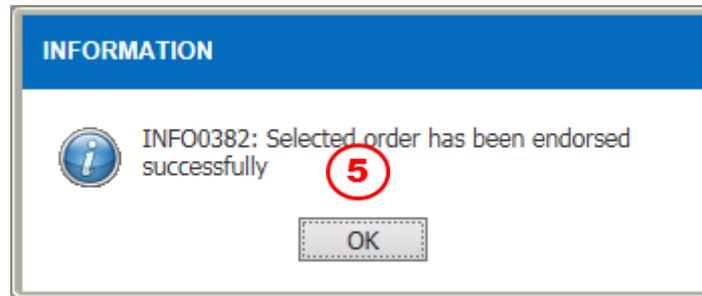


Figure 3.3-3 Confirmation Alert

**STEP 4**

Click on the  button to endorse the order



**Figure 3.3-4 Information Alert**

**STEP 5**

Click on the  button to successfully endorsed the order

## 4.0 Acronyms

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

## 5.0 Links to Clinical Modules

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