



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

Full Based

User Manual

**Order Management - Cytotoxic Drug Reconstitution
(CDR)**

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Document ID	: FB_U. MANUAL_OM CDR



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1.4	Michelle Foo/Juridah Ayob (QA)	Change to latest update and screenshot version 1.4.1
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PhIS & CPS Project
User Manual – Order Management Cytotoxic Drug Reconstitution
(CDR)



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Reference ID : FB_U. MANUAL_OM CDR_v1.5

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

1.2 Purpose and Objectives

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

User will understand the following activities in details:

- Patient Registration
- Visit Management
- Manage Duplicate Record
- Cancel Discharge Patient
- Clinical Summary

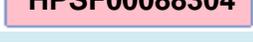
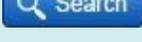
1.3 Organised Sections

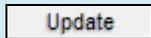
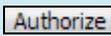
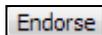
These are the sections within this document:

- Section 1 : Introduction
- Section 2 : Application Standard Features
- Section 3 : Cytotoxic Drug Reconstitution
- Section 4 : Acronyms
- Section 5 : Links to Clinical Modules

2.0 Application Standard Features

2.1 PhIS Legend

Standard Legend			
	Login to PhIS		Logout from PhIS
	Close All Open Tabs		Refresh Screen
	Expand Menu		Collapse Menu
	Expand Module		Collapse Module
	Add/Create New Record		Save
	Close Window		Calendar Icon
	Save Transaction		Delete Record
	Export Report From PDF file to Excel file		OK Button
	Yes Button		No Button
	Radio Button		Checkbox
	System Automatic Generate Record No.		Automatically Display/Retrieve Box
	Reset Login Screen		Show Help
	Display Home Tab		Search Record
	Cancel		Dropdown Box
	Search Icon	*	Mandatory Field
	Edit Record		Empty Text Box
	Cancel Button		

Module Legend			
	Update Patient's Height and Weight	Regimen Details	Display Regimen Details
	Update Sampling Details		Confirm Order
AUC Calculator	AUC Calculator		Save Record
Basic Search	Basic Search	Advanced Search	Advanced Search
	Display CDR Order Screen		Authorize Order
	Endorse Order		

Note

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

3.0 Cytotoxic Drug Reconstitution (CDR)

Overview

The Order Management – Cytotoxic Drug Reconstitution (CDR) module handles all the information to specify the items as per local drug formulary, MOH and non-MOH including registered and non-registered drugs. This function is to enable data mining. All medication orders must be prescribed by authorised personnel only and be in compliance with guidelines on prescribing in the drug formulary (drug category, discipline / specialty) as defined by MOH.

User Group

This module is intended for Pharmacist.

Functional Diagram

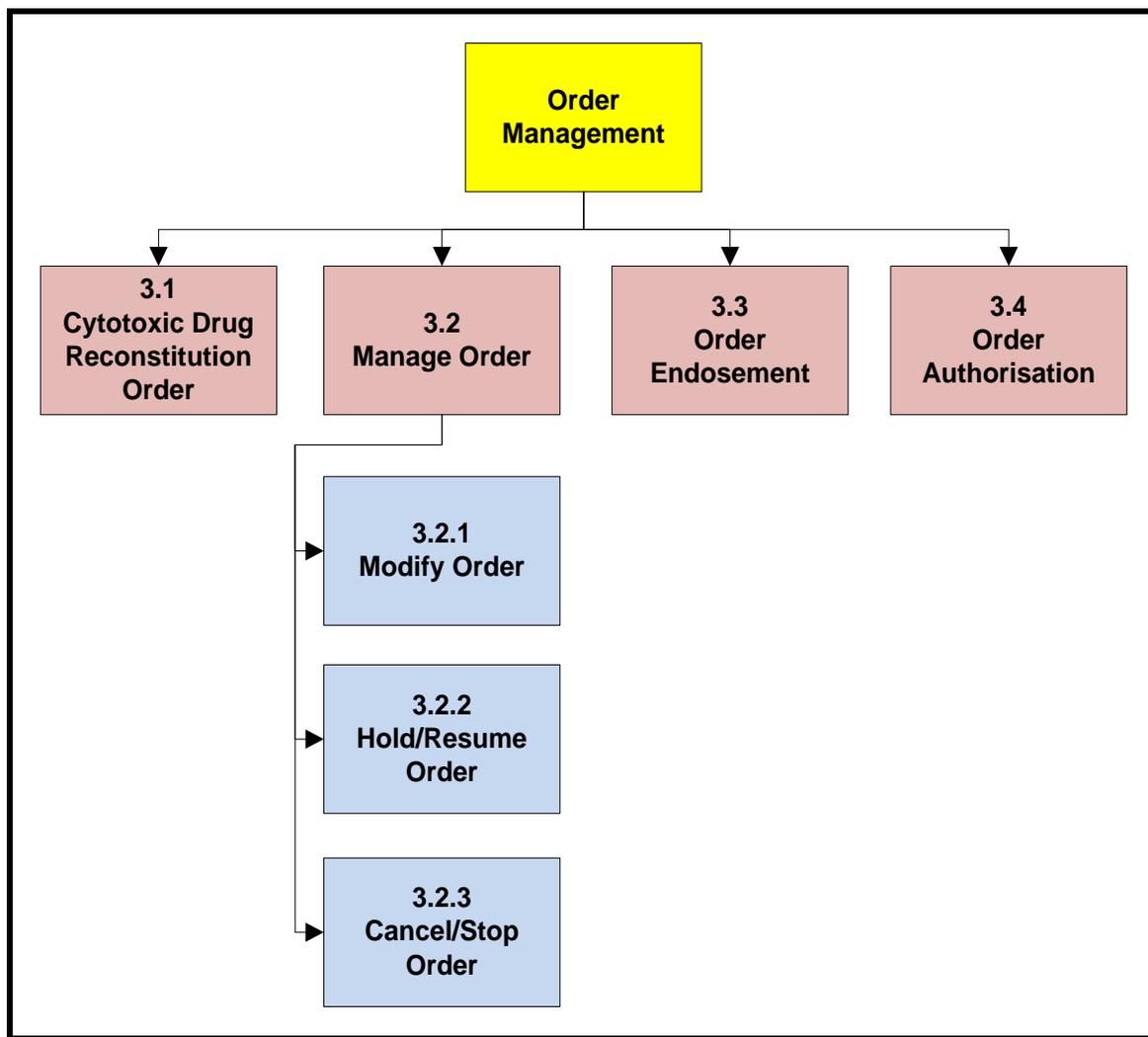


Figure 3.0



Functional Description

Cytotoxic Drug Reconstitution (CDR) comprises of four (4) main functions:

- **Cytotoxic Drug Reconstitution (CDR) Order**
CDR Order is used to prescribe Chemotherapy Drug.
- **Manage Order**
This function to monitor patient's prescription including modify order, hold/resume order- and cancel/stop order.
- **Order Endorsement**
Order endorsement is used to notify the prescriber of prescription changes made by the pharmacist.
The prescriber may endorse the intervention made by the pharmacist.
- **Order Authorisation**
This function is used to approve list A/ A*/ A/KK drugs that require authorisation

3.1 Cytotoxic Drug Reconstitution Order

CDR Order allows Prescriber to place a cytotoxic order. Order will be sent to Pharmacist for the process of verification, preparation and dispensing.

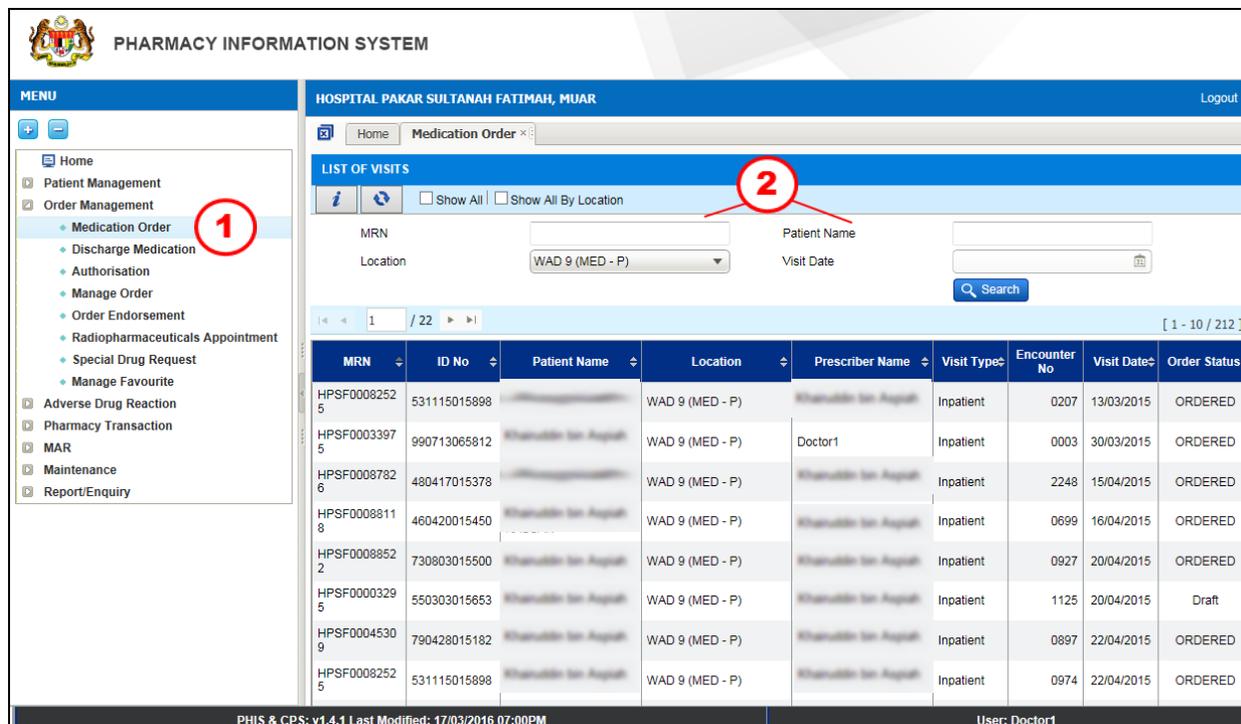


Figure 3.1-1 Medication Order Listing Page

STEP 1

Click on the 'Order Management ' menu followed by 'Medication Order' sub menu

STEP 2

Search patients record based on the fields below:

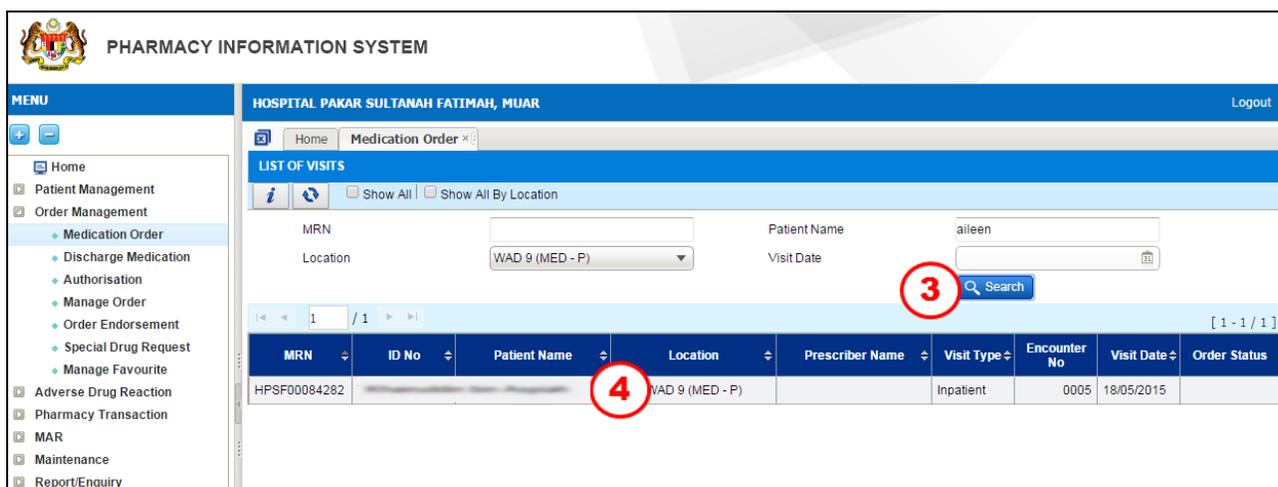
No	Field	Description	Remark
a	MRN	Patient Medical Record Number	Search option: <ul style="list-style-type: none"> Type the MRN either in full or partially: <i>Example : HPSF00001234 or "1234"</i>
b	Patient Name	Patient Name	Allow to search by fully or partially entered patient name
c	Location	Patient Visit Location	Able to filter and search patient by visit location and prescriber's location
d	Visit Date	Visit Date	Able to filter and search by visit date

Table 3.1-1

Note

Prescriber have the options to view patient by clicking on the checkbox:

- Show All - click on the checkbox to view all patients based on prescriber login.
- Show All By Location - click on the checkbox to view patients by location assigned based on prescriber login



PHARMACY INFORMATION SYSTEM

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

Home Medication Order x1 Logout

LIST OF VISITS

MRN Patient Name aileen

Location WAD 9 (MED - P) Visit Date

Search

MRN	ID No	Patient Name	Location	Prescriber Name	Visit Type	Encounter No	Visit Date	Order Status
HPSF00084282			WAD 9 (MED - P)		Inpatient	0005	18/05/2015	

Figure 3.1-2 Medication Order Listing Page

STEP 3

Click on the  button to search for patient

Note

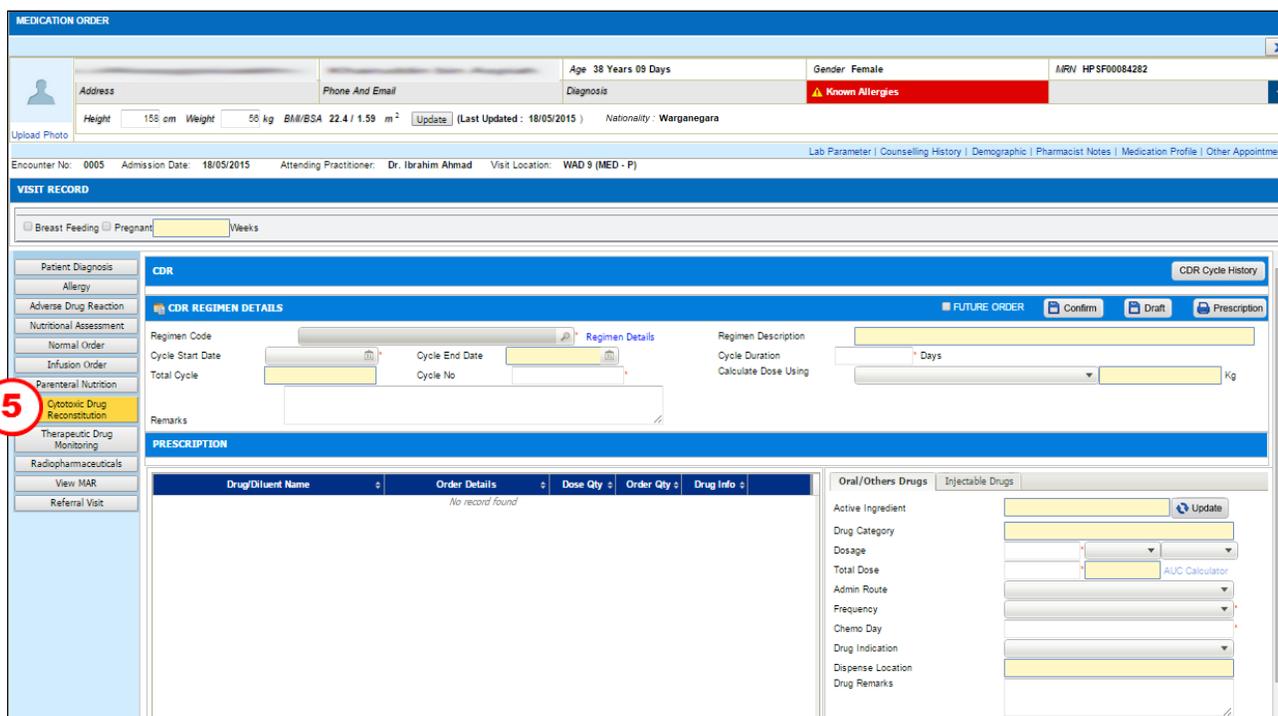
- Search results of patient record list will display:
 - MRN
 - ID No
 - Patient Name
 - Location
 - Prescriber Name
 - Visit Type
 - Encounter No
 - Visit Date
 - Order Status
- Order Status = 'Ordered', confirmed prescription.
- Order Status = 'Draft', prescription is saved but have not been confirmed.

STEP 4

Double click on the selected patient record and Medication Order screen will display as shown in Figure 3.1-3

Note

Patient Diagnosis is mandatory for each patient visit and Patient Allergies is mandatory for a newly registered patient.



MEDICATION ORDER

Address: [Redacted] Phone And Email: [Redacted] Age: 38 Years 09 Days Gender: Female MRN: HPSF0084282
 Height: 158 cm Weight: 56 kg BMI/BSA: 22.4 / 1.59 m² (Last Updated: 18/05/2015) Nationality: Warganegara

Encounter No: 0005 Admission Date: 18/05/2015 Attending Practitioner: Dr. Ibrahim Ahmad Visit Location: WAD 9 (MED - P)

CDR REGIMEN DETAILS

Regimen Code: [Redacted] Regimen Description: [Redacted]
 Cycle Start Date: [Redacted] Cycle End Date: [Redacted] Cycle Duration: [Redacted] Days
 Total Cycle: [Redacted] Cycle No: [Redacted] Calculate Dose Using: [Redacted] Kg

PRESCRIPTION

Drug/Diluent Name	Order Details	Dose Qty	Order Qty	Drug Info
No record found				

Oral/Others Drugs: [Redacted]
 Injectable Drugs: [Redacted]

Figure 3.1-3 Medication Order

STEP 5

Click on the Cytotoxic Drug Reconstitution button to display CDR Order screen

Note

CDR Order screen consist of:

a) Patient's Banner



MEDICATION ORDER

Address: [Redacted] Phone And Email: [Redacted] Age: 38 Years 09 Days Gender: Female MRN: HPSF0084282
 Height: 158 cm Weight: 56 kg BMI/BSA: 22.4 / 1.59 m² (Last Updated: 18/05/2015) Nationality: Warganegara

Diagnosis: [Redacted] **Known Allergies**

Figure 3.1-4 Patient's Banner

- Patient's banner will be displayed at the specific screen with required patient information. User can update patient's height and weight. Below is the list of patient information:
 - Patient Name
 - Patient IC Number
 - Patient Diagnosis
 - Patient Age
 - Patient Allergy
 - Patient Gender
 - Patient MRN
 - Patient Address
 - Patient Phone and Email
 - Height and Weight

b) Visit Record

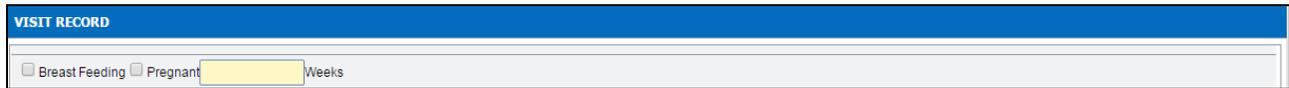


Figure 3.1-5 Visit Record

- Visit Record will display **Breast Feeding** and **Pregnant** checkboxes only if the patient is a female.

c) CDR Regimen Details

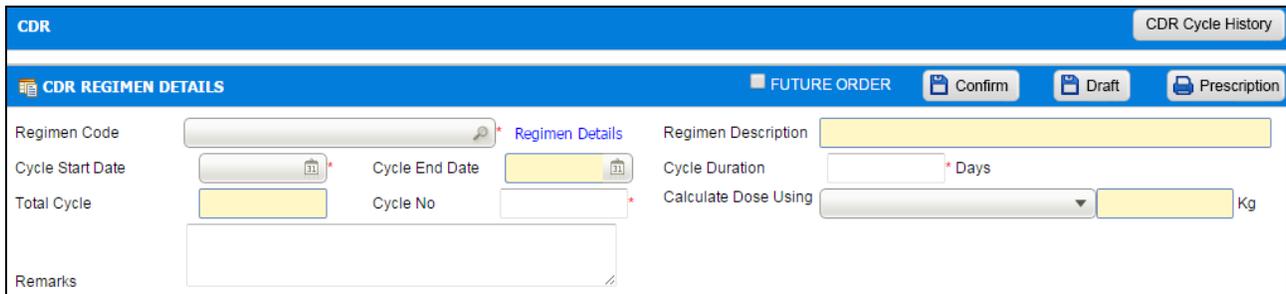


Figure 3.1-6 CDR Regimen Details

- CDR Regimen Details consists of:

- Regimen Code
- Regimen Details Hyperlink
- Regimen Description
- Cycle Start Date
- Cycle End date
- Cycle Duration
- Total Cycle
- Cycle No
- Calculate Dose Using
- Remarks

d) Prescriptions

Prescriptions consists of:

- Oral/Others Drugs
- Injectable Drugs
- Drug/Diluent Name
- Other Details
- Dose Qty (Quantity)
- Order Qty (Quantity)
- Drug Info

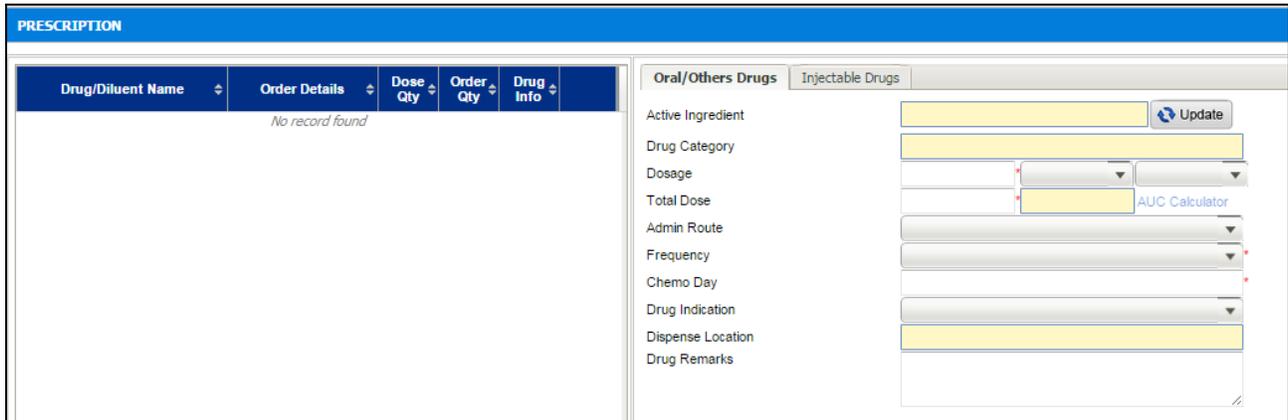


Figure 3.1-7 Prescriptions

e) Regimen Drug Details

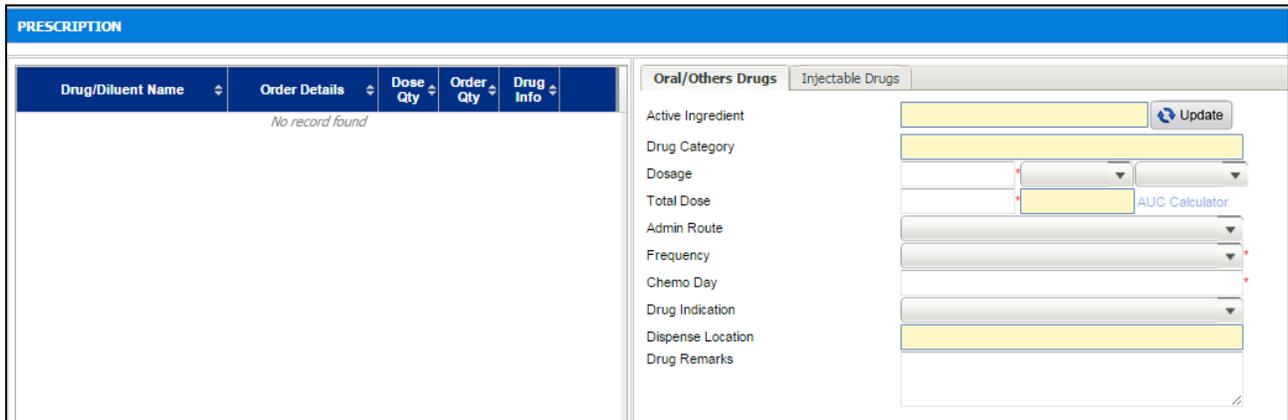


Figure 3.1-8 Regimen Drug Details : Oral/Others Drugs

- *Regimen Drug Details consists of two(2) tabs:*
 - I. *Oral/Others Drugs:*
 - *Active Ingredient*
 - *Drug Category*
 - *Dosage*
 - *Total Dose*
 - *AUC Calculator*
 - *Admin Route*
 - *Frequency*
 - *Chemo Day*
 - *Drug Indication*
 - *Dispense Location*
 - *Drug Remarks*



Figure 3.1-9 Regimen Drug Details : Injectable Drugs

II. *Injectable Drugs:*

- Active Ingredient
- Dosage
- Total Dose
- AUC Calculator
- Admin Route
- Frequency
- Chemo Day
- Drug Indication
- Infuse Over
- Diluent
- Diluent Volume
- Infusion Rate
- Dispense Location
- Drug Remarks

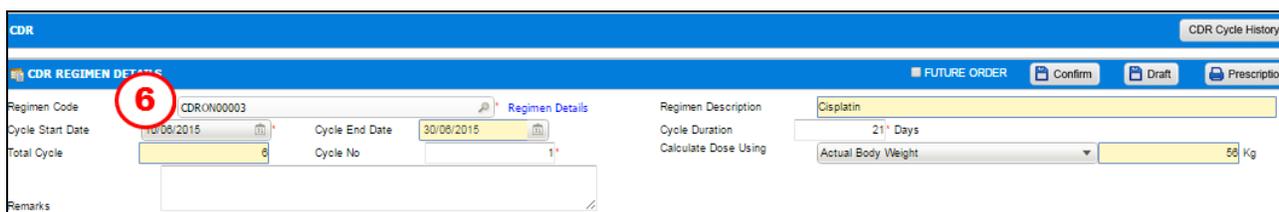


Figure 3.1-10 CDR Regimen Details

STEP 6

Search and select **Regimen Code** from dropdown box to display CDR regimen details (refer to Figure 3.1-11: Search Regimen screen) based on:

- Regimen Category
- Regimen Type
- Regimen Code
- Regimen Description

Regimen Code	Regimen Description	Regimen Type	Regimen Category
CDRON00003	Cisplatin	Head & Neck	Oncology
CDRON00005	MTX	Head & Neck	Oncology
CDRON00006	Carbo+5FU+FA	Head & Neck	Oncology
CDRON00007	Cisplatin (CCRT)	Nasopharynx (NPC)	Oncology
CDRON00008	Weekly Cisplatin	Nasopharynx (NPC)	Oncology
CDRON00004	Cisplatin+5FU+Docetaxel	Head & Neck	Oncology
CDRON00002	Cisplatin+5FU	Head & Neck	Oncology
CDRON00095	Cisplatin+MTX	Cervix	Oncology
CDRON00009	Weekly Carboplatin	Nasopharynx (NPC)	Oncology
CDRON00001	Carbo+5FU	Head & Neck	Oncology

Figure 3.1-11 CDR Search Regimen

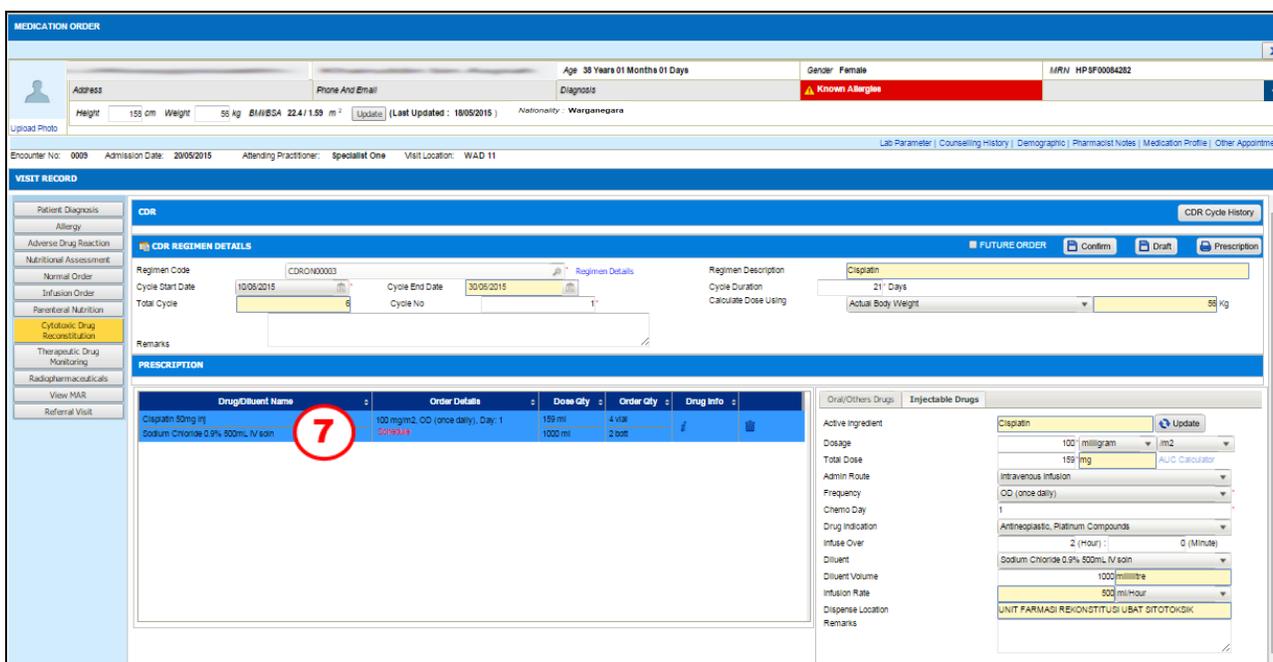
Note

- **Cycle No** field need to be entered by user.
- **Cycle Duration** is defaulted to the value setup in CDR Regimen Category and it is editable.
- **Cycle Start Date** is defaulted to the current system date and it is editable.
- **Cycle End Date** will be automatically displayed based on the **Cycle Start Date** and **Cycle Duration**.
- Click on the **Regimen Details** hyperlink to view the Regimen Details as shown in Figure 3.1-12.

Active Ingredient	Admin Route	Dosage	Frequency	Chemo day	Infuse Over	Diluent	Diluent Volume	Drug Remark	Status
Cisplatin	Intravenous Infusion	100 mg/m2	OD (once daily)	1	2 Hours 0 Minutes	Sodium Chloride 0.9% 500mL IV soln	1000 ml		Active

Figure 3.1-12 Regimen Details

- Select **Calculate Dose Using** from dropdown box:
 - Actual Body Weight
 - Adjusted Body Weight
 - Ideal Body Weight
- Double click on the **Oral/Others Drugs** or **Injectable Drugs** information row.
- System will automatically calculate the weight (kg) according to Calculate Dosage Using selected. It will give effect on Total Dose if user selects Dosage by per kg.



CDR REGIMEN DETAILS

Regimen Code: CDR000003
 Cycle Start Date: 10/06/2015
 Cycle End Date: 30/06/2015
 Total Cycle: 6
 Cycle No: 1

Regimen Description: Cisplatin
 Cycle Duration: 21 Days
 Calculate Dose Using: Actual Body Weight
 Actual Body Weight: 55 kg

PRESCRIPTION

Drug/Diluent Name	Order Details	Dose Qty	Order Qty	Drug Info
Cisplatin 50mg inj	100 mg/m ² , QD (once daily), Day 1	150 mg	4 via	
Sodium Chloride 0.9% 500ml IV soln	Schedule	1000 ml	2 bot	

Injectable Drugs

Active Ingredient: Cisplatin
 Doseage: 100 milligram
 Total Dose: 150 mg
 Admin Route: Intravenous Infusion
 Frequency: QD (once daily)
 Chemo Day: 1
 Drug Indication: Antineoplastic, Platinum Compounds
 Infuse Over: 2 (Hour)
 Diluent: Sodium Chloride 0.9% 500ml IV soln
 Diluent Volume: 1000 millilitre
 Infusion Rate: 500 ml/HOUR
 Dispense Location: UNIT FARMASI REKONSTITUSI UBAT SITOTOKSIK

Figure 3.1-13 Prescriptions

Note

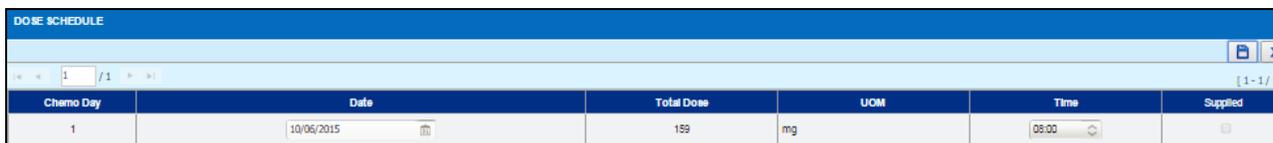
When the Regimen Code is selected, the Drug/Diluent Name of the prescription will be automatically display as shown in Figure 3.1-13.

STEP 7

Double click on the row of the prescription to edit regimen drug details

Note

- Click on the  button to delete information if necessary.
- Click on the [Schedule](#) hyperlink in red colour, the Dose Schedule screen will be displayed as shown in Figure 3.1-14.

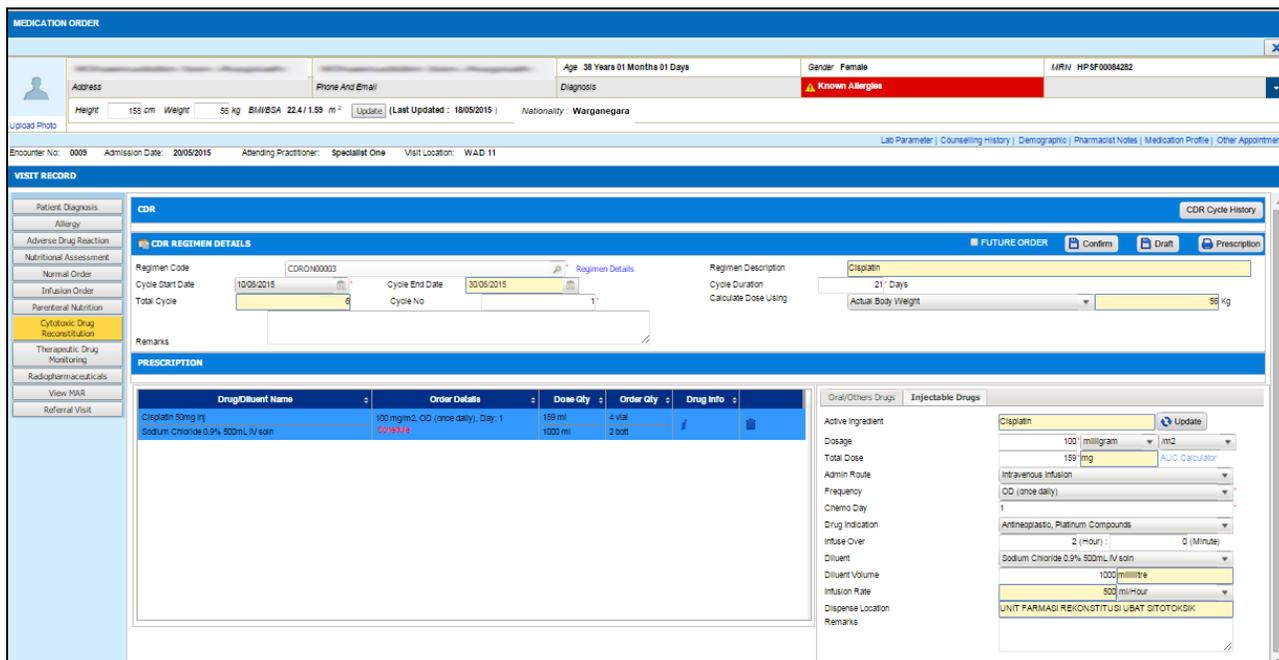


DOSE SCHEDULE

Chemo Day	Date	Total Dose	UCM	Time	Supplied
1	10/06/2015	150	mg	08:00	

Figure 3.1-14 Dosage Schedule

- System will display prescriptions based on **Regimen Code** selected in CDR Regimen Details.
- System will display Regimen Drug Details based on **Regimen Code** selected as shown in Figure 3.1-15.



MEDICATION ORDER

Age: 38 Years 01 Months 01 Days | Gender: Female | MRN: HP9F0084282

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

Height: 155 cm | Weight: 55 kg | BMI(BSA): 22.41 | 1.59 m² | Last Updated: 18/05/2015 | Nationality: Warganegara

Encounter No: 0009 | Admission Date: 20/05/2015 | Attending Practitioner: Specialist One | Visit Location: WAD 11

VISIT RECORD

Patient Diagnosis: [Redacted] | Allergy: [Redacted] | Adverse Drug Reaction: [Redacted] | Nutritional Assessment: [Redacted] | Normal Order: [Redacted] | Infusion Order: [Redacted] | Parenteral Nutrition: [Redacted] | **Cytotoxic Drug Reconstitution** | Therapeutic Drug Monitoring: [Redacted] | Radiopharmaceuticals: [Redacted] | View MAR: [Redacted] | Referral Visit: [Redacted]

CDR REGIMEN DETAILS

Regimen Code: CDRON0003 | Regimen Description: Cisplatin

Cycle Start Date: 10/05/2015 | Cycle End Date: 30/05/2015 | Cycle Duration: 21 Days

Total Cycle: 6 | Cycle No: 1 | Calculate Dose Using: Actual Body Weight | 55 kg

Remarks: [Redacted]

PRESCRIPTION

Drug/Diluent Name	Order Details	Dose Qty	Order Qty	Drug Info
Cisplatin 50mg inj	100 mg/m ² OD (once daily), Day: 1	159 mg	4 vial	
Sodium Chloride 0.9% 500mL IV soln	[Redacted]	1000 ml	2 bott	

Injectable Drugs

Active Ingredient: Cisplatin | Update

Dosage: 100 | milligram | m²

Total Dose: 159 mg | AUC Calculator

Admin Route: Intravenous Infusion

Frequency: OD (once daily)

Chemo Day: 1

Drug Indication: Antineoplastic, Platinum Compounds

Infuse Over: 2 (Hour) | 0 (Minute)

Diluent: Sodium Chloride 0.9% 500mL IV soln

Diluent Volume: 1000 millilitre

Infusion Rate: 500 ml/hour

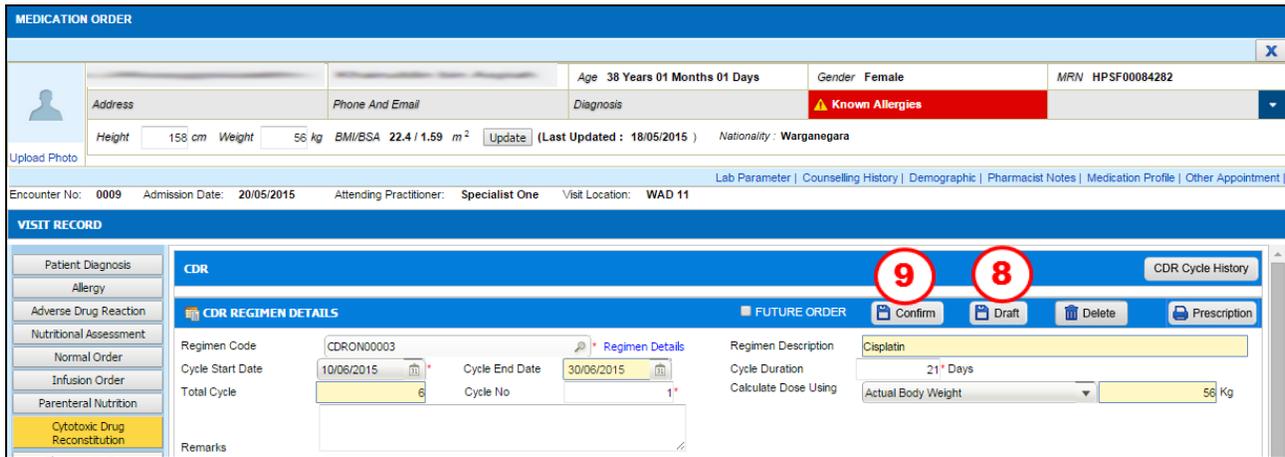
Dispense Location: UNIT FARMASI REKONSTITUSI UBAT SITOTOKSIK

Remarks: [Redacted]

Figure 3.1-15 Regimen Drug Details : Injectable Drugs

Note

- User is allowed to edit or update Regimen Drug Details:
 - Dosage
 - Total Dose
 - Admin Route
 - Frequency
 - Chemo Day
 - Drug Indication
 - Infuse Over
 - Diluent
 - Diluent Volume
 - Drug Remarks
- If select **Dosage** '/kg' from dropdown menu, **Total Dose** will displayed based on Calculate Dose Using selected previously in CDR Regimen Detail (Refer to Step 6).
- Click on the  button to save updated Regimen Drug Details.



MEDICATION ORDER

Age: 38 Years 01 Months 01 Days | Gender: Female | MRN: HPSF00084282

Address | Phone And Email | Diagnosis | **Known Allergies**

Height: 158 cm | Weight: 56 kg | BMI/BSA: 22.4 / 1.59 m² | Update (Last Updated: 18/05/2015) | Nationality: Warganegara

Encounter No: 0009 | Admission Date: 20/05/2015 | Attending Practitioner: Specialist One | Visit Location: WAD 11

VISIT RECORD

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

CDR | CDR Cycle History

CDR REGIMEN DETAILS | FUTURE ORDER | Confirm | Draft | Delete | Prescription

Regimen Code: CDRON00003 | Regimen Description: Cisplatin

Cycle Start Date: 10/06/2015 | Cycle End Date: 30/06/2015 | Cycle Duration: 21* Days

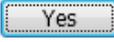
Total Cycle: 6 | Cycle No: 1* | Calculate Dose Using: Actual Body Weight | 56 Kg

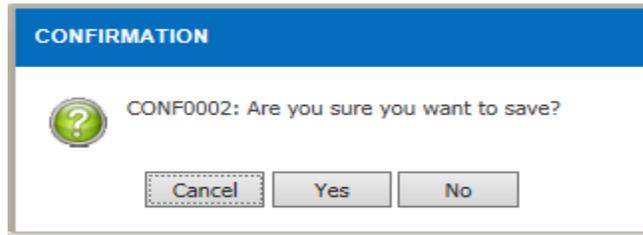
Figure 3.1-16 Medication Order

STEP 8

Click on the  button to save CDR order

Note

- Click on the  button to save order.



CONFIRMATION

CONF0002: Are you sure you want to save?

Cancel | Yes | No

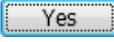
Figure 3.1-17 Confirm Record

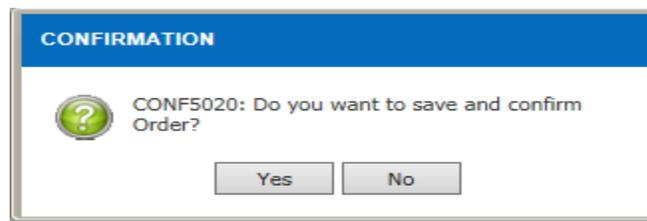
- CDR order status will be set as "Draft".
- User is allowed to edit or modify order using this screen.

STEP 9

Click on the  button to confirm CDR order

Note

- Click on the  button to confirm order.



CONFIRMATION

CONF5020: Do you want to save and confirm Order?

Yes | No

Figure 3.1-18 Confirm Record

- CDR order status will change to “Ordered” and user is not allowed to make changes.
- System will notify user if the CDR drug requires an authorisation before proceeding to CDR Admixture.
- The FUTURE ORDER check box is to allow user to create a future order and when patient arrive for chemo, the doctor/pharmacist will approve the order. If the future order is without approval, Pharmacist will not allow any transaction for it
- Click on the Delete button to delete record before order is confirmed.
- Click on the Prescription button to print CDR prescription.

Ministry of Health, Malaysia
Hospital Pakar Sultanah Fatimah, Muar
Cytotoxic Drug Reconstitution

Patient Name : AILEEN BINTI SAMAD Patient ID : 770509145802
 Age : 65 MRN : 11000142200
 Gender : Female Prescription # : 11000142200
 Height/Weight/BSA : 158 cm / 56 kg / 1.59 m² Order Date/Time : 10/06/2015 03:44 PM
 Allergy : Sulfur Location : WAD 11

Diagnosis : tumour
 Regimen Code : CDRON00003
 Regimen Description : Cisplatin
 Cycle Start Date : 10/06/2015

Route	Drug Name	Dosage	Total Dose	Diluent	Diluent Vol	Frequency	Chemo Day
INF	Cisplatin	100 mg/m ²	159 mg	Sodium Chloride 0.9% 500mL IV soln	1000 ml	OD (once daily)	1

Prescribed By : Dr. Ibrahim Ahmad
 Designation : Penawar Penihatian (Ketua Jabatan)
 Department :

Figure 3.1-19 CDR Prescription

CDR Cycle History

Note

- Click on the CDR Cycle History button to display CDR Cycle History screen. Sort the record based on the Cycle Start Date.

CDR CYCLE HISTORY												
Regimen Code	Regimen Name	Cycle Start Date	Cycle End Date	Cycle Duration	Total Cycle	Cycle No	Height/Weight/BSA	Remarks	Prescription Status	Selection	Ordered By	Approved By(Future Order)
CDRON00003	Cisplatin	10/06/2015	30/06/2015	21 Days	6	1	158cm/56kg/22.43m		ORDERED	<input type="checkbox"/>		
Drug Name	Dose	Frequency	Route	Chemo Day	Drug Remarks	Status						
Cisplatin 50mg Inj	159 mg	OD (once daily)	Intravenous Infusion	Day : 1		ORDERED						

Figure 3.1-20 CDR Cycle History

- Doctor/Pharmacist will approve a future order by clicking on the Approve Future Order button.
- If the future order is without approval, Pharmacist will not allow any transaction.
- Click button to print CDR Cycle History as shown in Figure 3.1-21.
- For Carboplatin use AUC calculator instead of BSA.

3.2 Manage Order

Prescriber is allowed to manage the order made after they confirm the order.

3.2.1 Modify Order

Prescriber is allowed to modify the prescription if the **Order Status** is ORDERED.

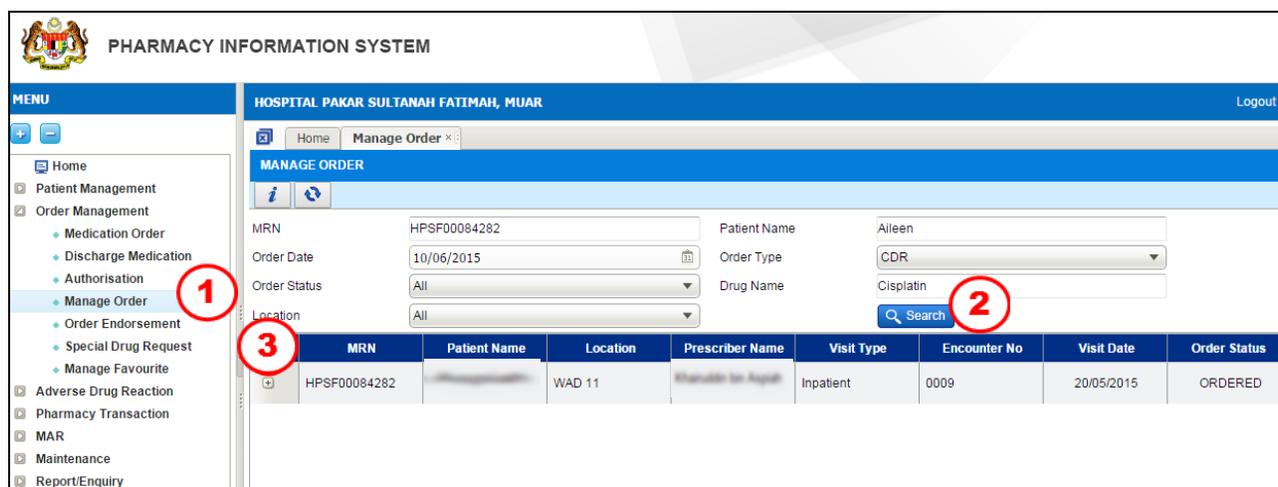


Figure 3.2.1-1 Manage Order Listing Page

STEP 1

Click on the 'Order Management' menu followed by 'Manage Order' sub menu

Note

Search patient record based :-

No	Field	Description	Remark
a	MRN	Patient Medical Record Number	Search option: • Scan the MRN using barcode scanner. • Type the MRN either in fully or partially.. <i>Example : HPSF00001234 or "1234"</i>
b	Order Date	Order date	Allow to search by ordered date
c	Order Status	According to Order in which stage	Able to filter by order status
d	Location	Patient visit location	Able to filter and search patient name by visit location
e	Patient Name	Patient Name	Allow to search by patient name –in fully or partially
f	Order Type	Search patient by: - Normal - CDR - IV - PN - Radiopharmaceuticals	Allow to search by order type
g	Drug Name	Drug Name	Allow to search by fully or partially entered drug name

Table 3.2.1-1

STEP 2

Click on the  button to search for patient

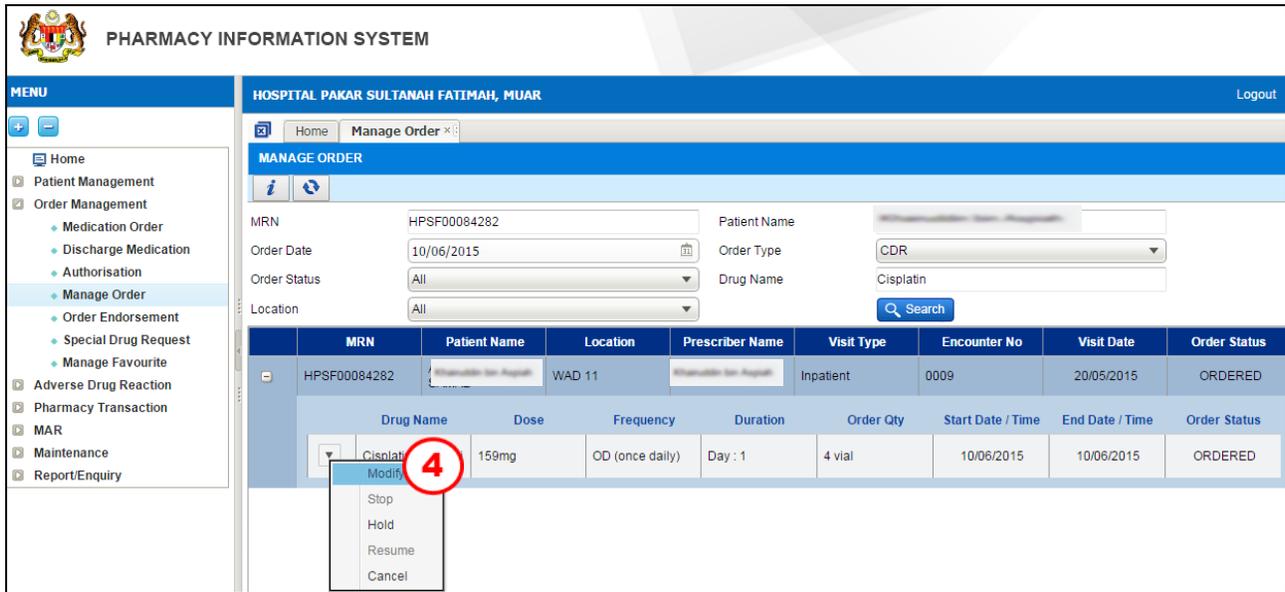
Note

- Search results of patient record list will display:
 - MRN
 - Patient Name
 - Location
 - Prescriber Name

- Visit Type
- Encounter No
- Visit Date
- Order Status

STEP 3

Click on  button to view selected patient's prescription



PHARMACY INFORMATION SYSTEM

HOSPITAL PAKAR SULTANAH FATIMAH, MUAR

Home Manage Order x: Logout

MANAGE ORDER

MRN: HPSF00084282 Patient Name: [Redacted]
 Order Date: 10/06/2015 Order Type: CDR
 Order Status: All Drug Name: Cisplatin
 Location: All Search

MRN	Patient Name	Location	Prescriber Name	Visit Type	Encounter No	Visit Date	Order Status
HPSF00084282	[Redacted]	WAD 11	[Redacted]	Inpatient	0009	20/05/2015	ORDERED

Drug Name	Dose	Frequency	Duration	Order Qty	Start Date / Time	End Date / Time	Order Status
Cisplatin	159mg	OD (once daily)	Day : 1	4 vial	10/06/2015	10/06/2015	ORDERED

Figure 3.2.1-2 Manage Order – Modify

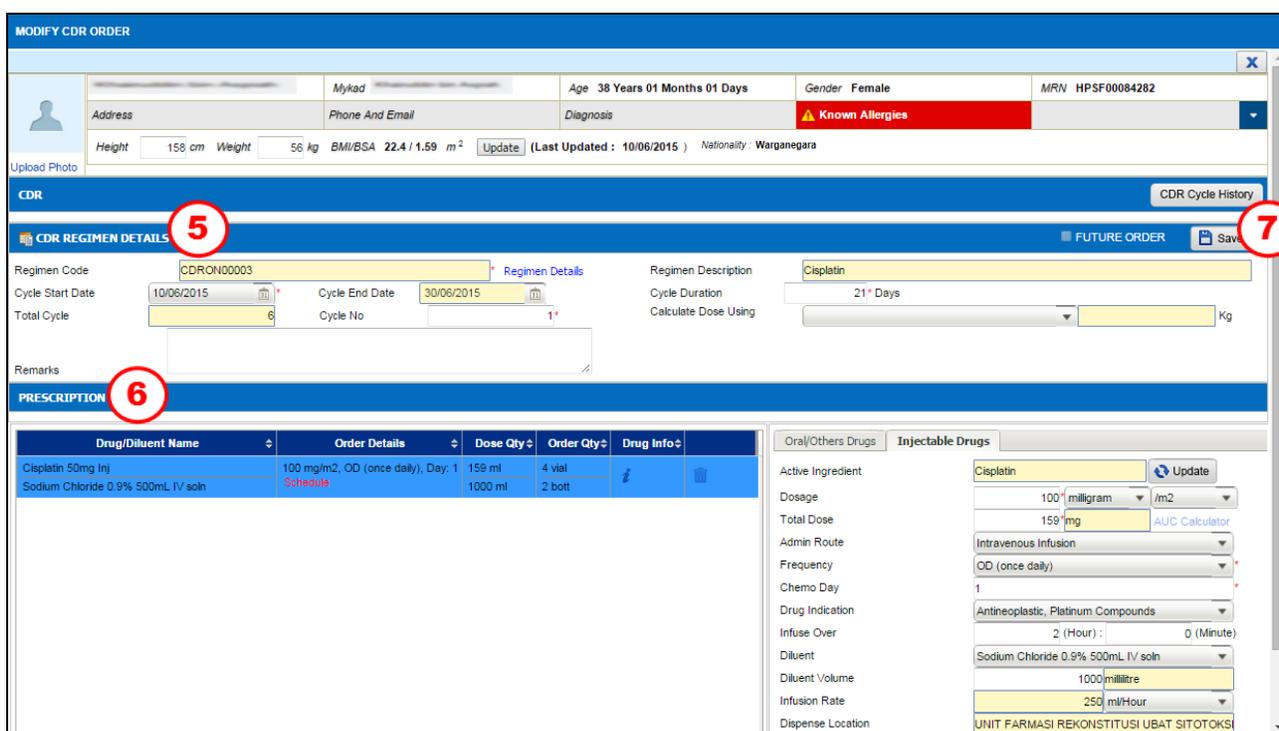
STEP 4

Right click on the  button and select **Modify** function

Note

Modify CDR Order screen will be displayed as shown in Figure 3.2.1-3 and consist of two (2) sections which are:

- CDR Regimen Details section
- Prescription section : Regimen Drug Details



MODIFY CDR ORDER

Mykad: [Redacted] Age: 38 Years 01 Months 01 Days Gender: Female MRN: HPSF00084282

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

Height: 158 cm Weight: 56 kg BMI/BSA: 22.4 / 1.59 m² (Last Updated: 10/06/2015) Nationality: Warganegara

CDR REGIMEN DETAILS (5) CDR Cycle History (7) FUTURE ORDER Save

Regimen Code: CDRON00003 Regimen Description: Cisplatin
 Cycle Start Date: 10/06/2015 Cycle End Date: 30/06/2015 Cycle Duration: 21* Days
 Total Cycle: 6 Cycle No: 1* Calculate Dose Using: [Dropdown] Kg

Remarks: [Text Area] (6)

PRESCRIPTION (6)

Drug/Diluent Name	Order Details	Dose Qty	Order Qty	Drug Info
Cisplatin 50mg Inj	100 mg/m2, OD (once daily), Day: 1	159 ml	4 vial	[Info Icon]
Sodium Chloride 0.9% 500mL IV soln	Schedule	1000 ml	2 bott	[Info Icon]

Injectable Drugs

Active Ingredient: Cisplatin (Update)
 Dosage: 100 milligram /m2
 Total Dose: 159 mg (AUC Calculator)
 Admin Route: Intravenous Infusion
 Frequency: OD (once daily)
 Chemo Day: 1
 Drug Indication: Antineoplastic, Platinum Compounds
 Infuse Over: 2 (Hour) : 0 (Minute)
 Diluent: Sodium Chloride 0.9% 500mL IV soln
 Diluent Volume: 1000 millilitre
 Infusion Rate: 250 ml/Hour
 Dispense Location: UNIT FARMASI REKONSTITUSI UBAT SITOTOKSI

Figure 3.2.1-3 Modify CDR Order

STEP 5

Information under CDR Regimen Details section which user can modify:

- a) **Cycle Start Date**
- b) **Cycle Duration**
- c) **Cycle No**
- d) **Calculate Dose Using**
- e) **Remarks**

STEP 6

Information under Prescription section : Regimen Drug Details which user can modify:

- a) **Dosage**
- b) **Total Dose**
- c) **Frequency**
- d) **Chemo Day**
- e) **Admin Route**
- f) **Drug Indication**
- g) **Infuse Over**
- h) **Diluent**
- i) **Diluent volume**

STEP 7

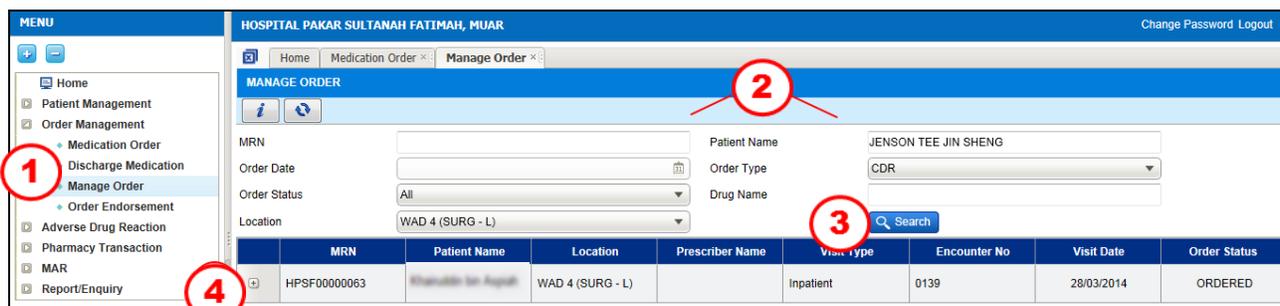
Click on the  button to save the modified record

3.2.2 Hold/Resume Order

Prescriber is allowed to hold medication order from being administered or dispense to the patient and may resume the hold order to continue the medication order.

Note

Repeat **Step 1 to Step 3** section 3.2.1 Modify Order to proceed with Hold/Resume order.



MRN	Patient Name	Location	Prescriber Name	Visit Type	Encounter No	Visit Date	Order Status
HPSF0000063	Mr. Jenson Tee Jin Sheng	WAD 4 (SURG - L)		Inpatient	0139	28/03/2014	ORDERED

Figure 3.2.2-1 Manage Order – Hold

Hold/Resume order function in manage order module is for prescriber to hold or resume an order from dispensing

STEP 1

Click on 'Order Management' module and click on 'Manage Order' submodule

STEP 2

Search patient's record either by:

- MRN
- Patient Name
- Order Date
- Order Type
- Order Status
- Drug Name
- Location

Note

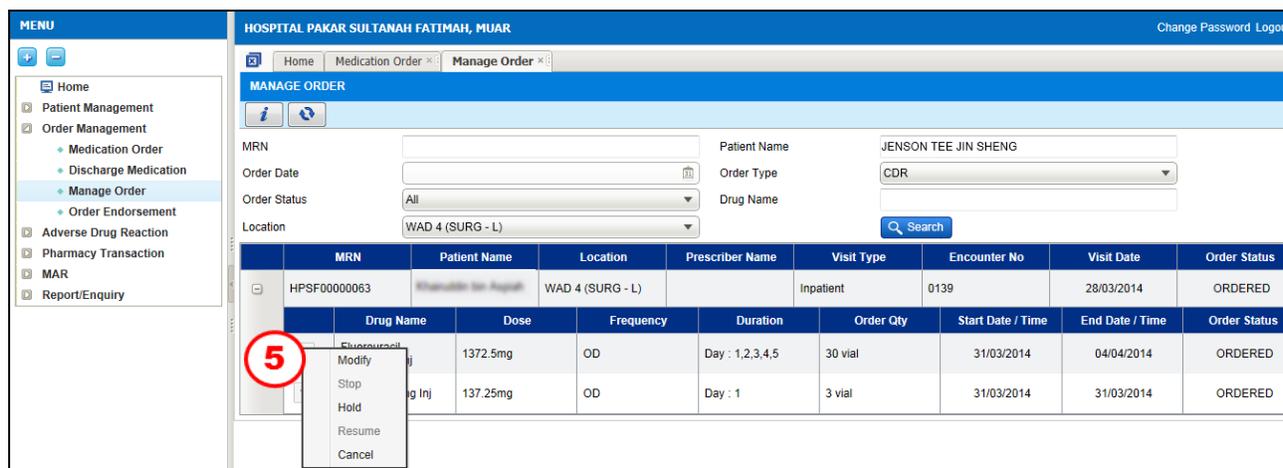
User need to select order type as 'CDR' to search CDR order record.

STEP 3

Click on the  to search patient's record

STEP 4

Click on the  button to display order detail



STEP 5

Right click on the  content menu and select Hold function to hold the order

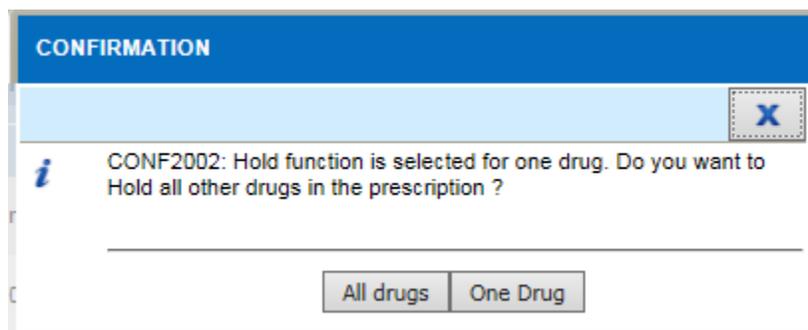


Figure 3.2.2-2 Alert Message

Note

- Alert Message will be displayed after selecting **Hold** as figure 3.2.2-2
- Click on the  button to hold all other drugs in the prescription.
- Click on  the button to hold only the selected drugs in the prescription.
- Order Status will change to 'Ordered Hold' as shown in Figure 3.2.2-3.

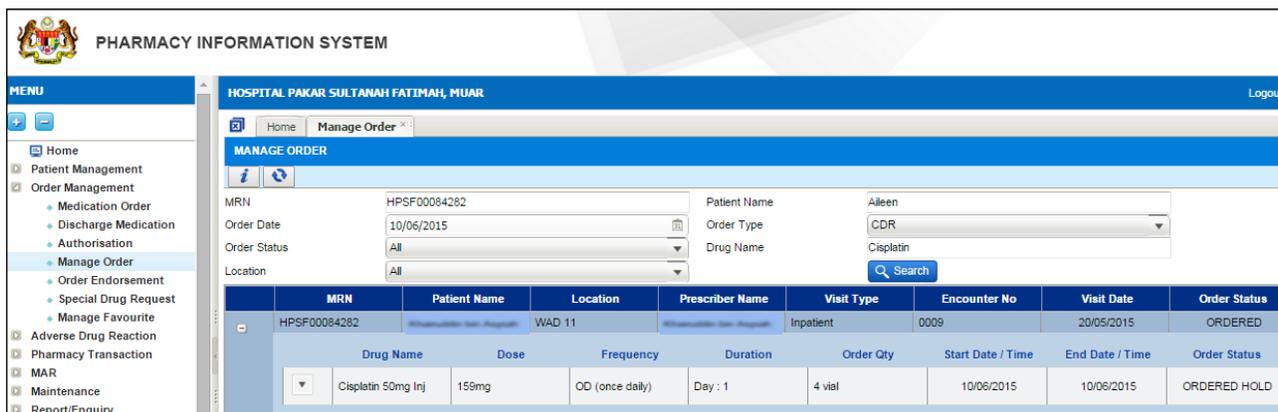


Figure 3.2.2-3 Manage Order – Hold

Resume CDR Order

- Right click on the  button and select **Resume**
- Alert Message will be displayed after selecting **Resume**

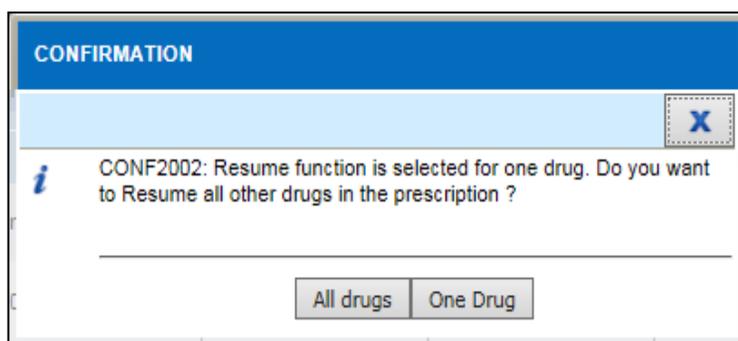
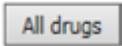
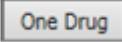


Figure 3.2.2-4 Alert Message

Note

- Click on the  button to resume all other drugs in the prescription.
- Click on the  button to resume only the selected drugs in the prescription.
- Order Status will change to 'Ordered'.

3.2.3 Cancel/Stop Order

Prescriber is allowed to cancel or stop prescribed medication order from being administered or dispensed.

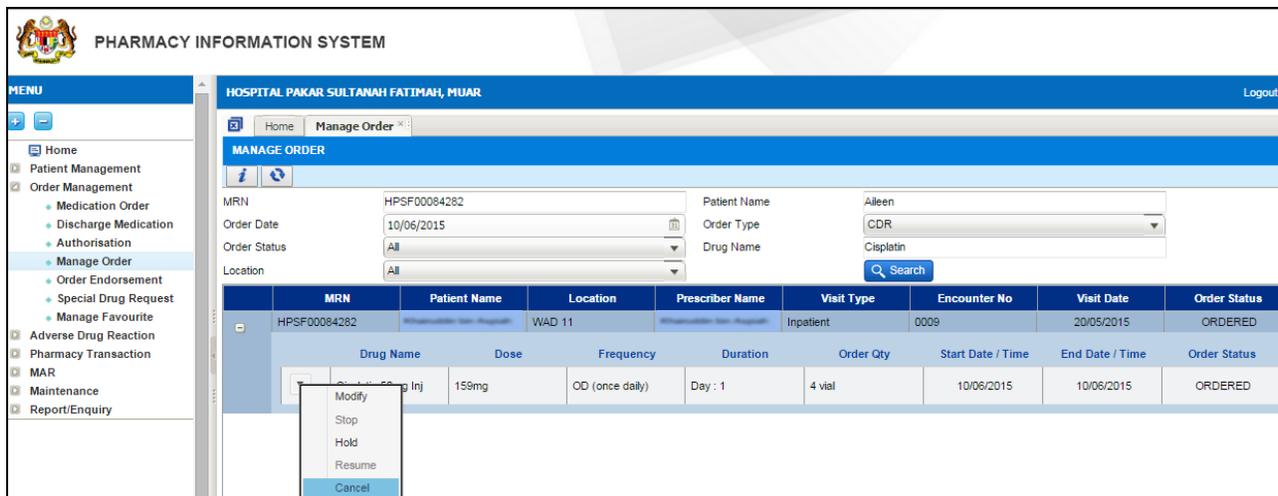


Figure 3.2.3-1 Manage Order – Cancel

Note

Repeat **Step 1 to Step 3** section 3.2.1 Modify Order to proceed with Cancel/Stop order.

Cancel CDR Order

- Right click on the  button and select **Cancel**
- Alert Message will be displayed after selecting **Cancel**

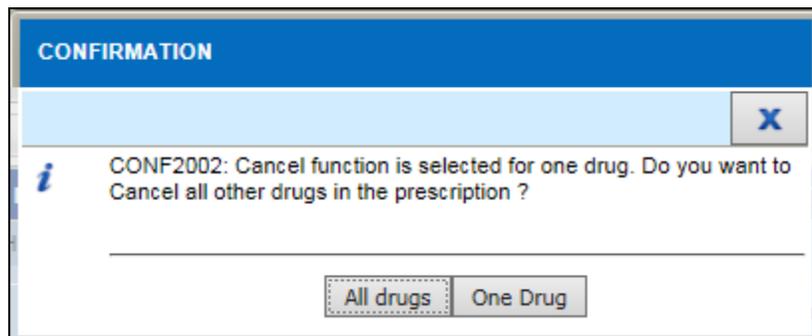


Figure 3.2.3-2 Alert Message

Note

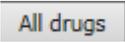
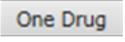
- Click on the  button to cancel all other drugs in the prescription.
- Click on the  button to cancel only the selected drugs in the prescription.
- After is clicked, user is required to fill **Cancel Reason** as shown in figure 3.2.3-3.
- Click on the  button to save the CDR Drug cancellation.
- If prescriber found that prescription is required to be cancelled due to patient allergies, prescriber is allowed to click on the  button to record the allergies.



Figure 3.2.3-3 Cancel Reason

Stop CDR Order

Note

- Only orders with Status “Partially Dispense” can be used to stopped.
 - Right click on the  button and select **Stop**
 - Alert Message will be displayed after selecting **Stop**

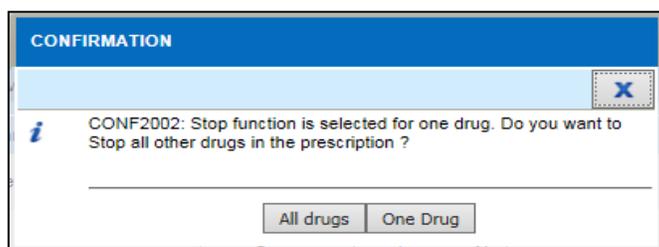
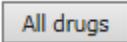
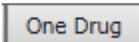


Figure 3.2.3-4 Alert Message

Click  to stop all drug at current perscription or  to stop only selected drug

3.3 Order Endorsement

Order endorsement is to notify the prescriber on prescription changes made by pharmacist.

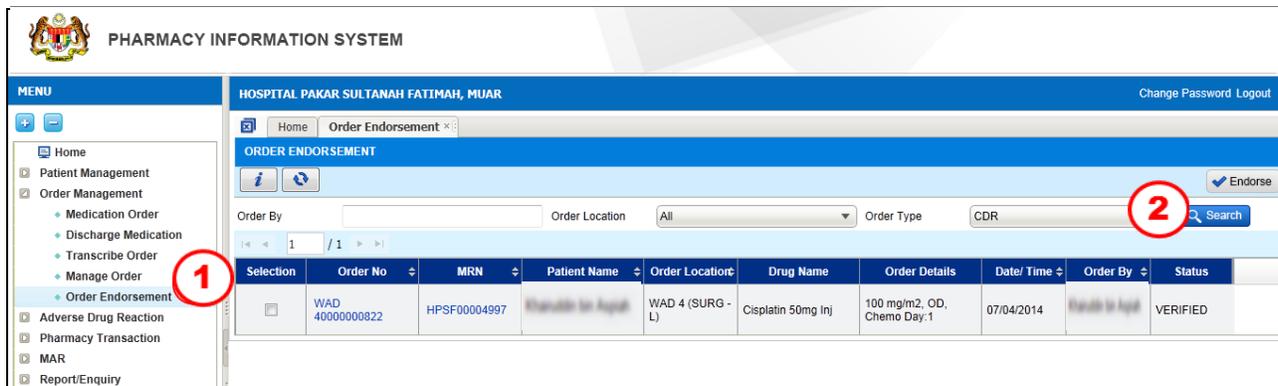


Figure 3.3-1 Order Endorsement

STEP 1

Click on the 'Order Management' menu followed by 'Order Endorsement' sub menu

Note

Search patient records by below criteria :-

No	Field	Description	Remark
a	Order By	Prescriber Name	Allow to search by fully or partially entered prescriber name
b	Order Location	Patient visit location	Able to filter and search patient name by visit location
c	Order type	Search By: - Normal - CDR - IV - PN - Radiopharmaceuticals	Allow to search by order type

Table 3.3-1

STEP 2

Click on the  button to search for patient

Note

- Search result of patient record list will display:
 - Order Number
 - MRN
 - Patient Name
 - Order Location
 - Drug Name
 - Order Details
 - Date/Time
 - Order By
 - Status

Note

- Click on the **Order No** hyperlink to view Order Details as shown in Figure 3.3-2.
- Click on the **MRN** hyperlink to view patient Medication Profile as shown in Figure 3.3-3.

ORDER DETAILS										
REGIMEN DETAILS										
Ordered Cycle Start Date:	Modified Cycle Start Date:	Ordered Cycle End Date:	Modified Cycle End Date:							
04/04/2017	-	24/04/2017	-							
DRUG DETAILS										
Drug Name	Ordered Dose	Ordered Frequency	Ordered Infuse Over	Ordered Chemo Day	Ordered Route	Ordered Start Date	End Date	Status	Remarks	Ordered By
Epirubicin 10mg/5ml Injection	86.4 mg	OD (once daily)	-	Day: 1	Intravenous Slow Bolus	04/04/2017	04/04/2017	ORDERED		Wanida Isyiah
Drug Name	Modified Dose	Modified Frequency	Modified Infuse Over	Modified Chemo Day	Modified Route	Modified Start Date	End Date	Status	Remarks	Modified By
Epirubicin 10mg/5ml Injection	-	Single Dose		-	-	-	04/04/2017	ORDERED		SITI FAIRUZ BINTI SELBI
DOSE SCHEDULE										
Chemo Day	Ordered Date	Modified Date								
1	04/04/2017	-								

Figure 3.3-2 Order Details

MEDICATION PROFILE											
											Administration Dispensing
Drug Name	<input type="text"/>	Visit Type	<input type="text" value="All"/>								
Prescription Date From	<input type="text"/>	Prescription Date To	<input type="text"/>								
Prescription Status	<input type="text" value="All"/>	Location	<input type="text" value="All"/>								
Order Type	<input type="text" value="Normal"/>	<input type="button" value="Search"/>									
Current Medication											
											Encounter No
Previous Medication											
											Encounter No
											0036
Rx No.	Drug Name	Dose	Route	Frequency	Status	Visit Type	Visit Date	Duration	Prescribed Qty	Start Date	End Date
WAD 80000000751	Amikacin 500mg/2ml Inj	2000 mg	Intravenous Infusion	BD	ORDERED	Inpatient	24/03/2014	2 Days	4000	03/04/2014	05/04/2014
WAD 80000000235	nifEDipine 10 mg Tablet	5 mg	Oral	TDS	PARTIALLY DISPENSED	Inpatient	24/03/2014	2 Days	3	24/03/2014	26/03/2014
WAD 80000000235	Allopurinol 300 mg Tablet	150 mg	Oral	OD	FULLY DISPENSED	Inpatient	24/03/2014	2 Days	1	24/03/2014	26/03/2014
WAD 80000000147	Ofloxacin 100 mg Tablet	100 mg	Oral	STAT	ORDERED	Inpatient	24/03/2014	1 Days	1	27/03/2014	28/03/2014
WAD 80000000121	Paracetamol 500 mg Tablet	500 mg	Oral	PRN	ORDERED	Inpatient	24/03/2014	2 Days	0	27/03/2014	29/03/2014
WAD 80000000113	Insulin glargine (Lantus) 100 IU/ml Pre-filled Pen	1 IU , 2 IU , 1 IU	Subcutaneous	TDS	ORDERED	Inpatient	24/03/2014	2 Days	1	27/03/2014	29/03/2014
WAD 80000000099	Insulin regular (Actrapid) 100 IU/mL Penfill	4 IU	Subcutaneous	OM	ORDERED	Inpatient	24/03/2014	2 Days	1	27/03/2014	29/03/2014
WAD 80000000096	Amlodipine 10 mg Tablet	10 mg	Oral	OD	ORDERED	Inpatient	24/03/2014	2 Days	2	26/03/2014	28/03/2014

Figure 3.3-3 Medication Profile

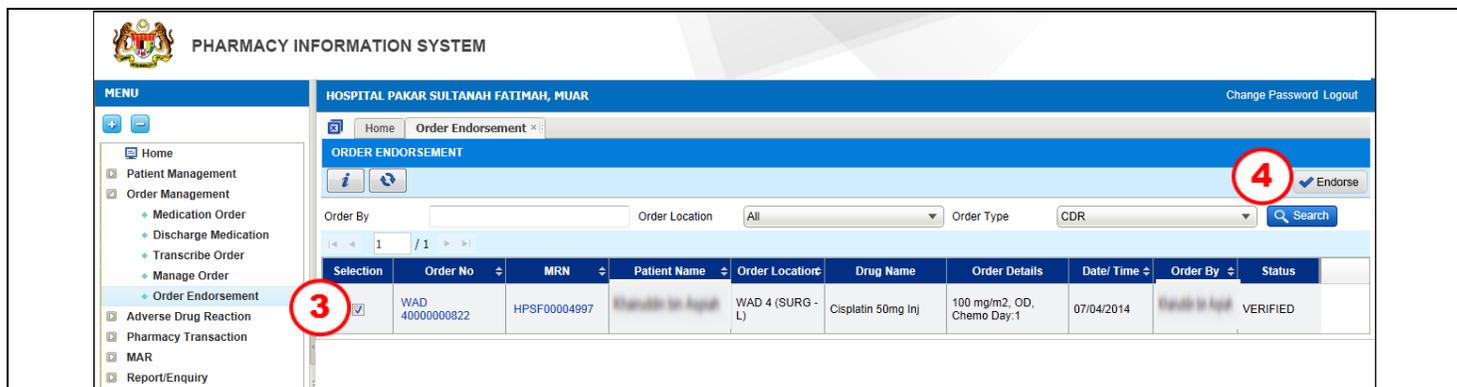


Figure 3.3-4 Order Endorsement

STEP 3

Click on the selected Patient Name checkbox

STEP 4

Click on the **Endorse** button to endorse the drug and alert message will be displayed as in Figure 3.3-5

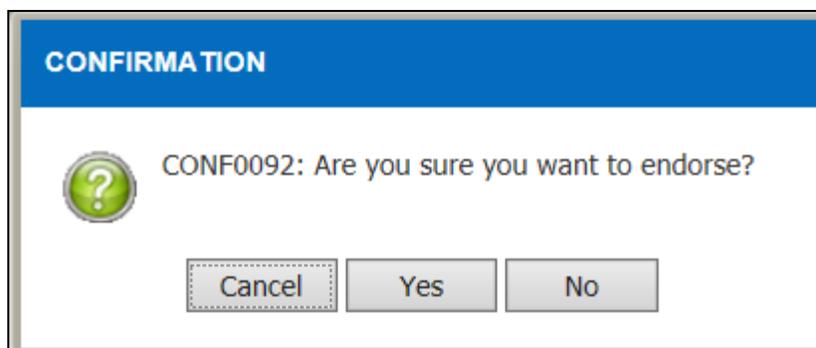


Figure 3.3-5 Alert Message

Note

Click on the **Yes** button to confirm the endorsement.

Click on the **No** button to cancel the endorsement.

3.4 Authorisation

This function is used by a specialist or authorised person to approve list A/ A*/ A/KK drug that requires authorisation.

Figure 3.4-1 Authorisation

STEP 1

Click on the 'Order Management' menu and followed by 'Authorisation' sub menu

Note

Search patients record by below criteria :-

No	Field	Description	Remark
a	Order By	Prescriber Name	Allow to search by fully or partially entered prescriber name
b	Patient Name	Patient Name	Allow to search by fully or partially entered prescriber name
c	Location	Patient Visit Location	Able to filter and search patient by visit location and prescriber's location
d	Drug Name	Drug Name	Allow to search by fully or partially entered drug name
e	Order Date From	Order confirmed date	Allow to search by start date of order created
f	Order Date To	Order confirmed date	Allow to search by selected duration of order created

Table 3.4-1

STEP 2

Click on button to search for patient

Note

- Search results of patient record list will display:

- Order ID
- MRN
- Patient Name
- Location
- Drug Name
- Dose
- Frequency
- Duration
- Ordered Date/Time
- Order By
- Order Type
- Authorise

Note

- Click on the **Order ID** hyperlink to view Order Details as shown in Figure 3.4-2.
- Click on the **MRN** hyperlink to view patient Medication Profile as shown in Figure 3.4-3.

ORDER DETAILS



Age 58 Years 2 Months 14 Days Gender Female MRN HPSF0004995

Address

Phone And Email

Diagnosis

No known Allergies

Height 180 cm

Weight 69 kg

BMI/BSA 21.3 / 1.85 m² (Last Updated : 26/03/2014)

Nationality : Warganegara

Rx No: WAD 9000000221

Order Type: CDR

Order By: [User]

Order Date: 31/03/2014 05:32 PM

Order Location: WAD 9 (MED - P)

Category: Hematology - NA

Regimen Code: CDRHE00227

Regimen Description: IMVP 16

Cycle Duration: 28

No. of Cycles: 0

Cycle Start Date: 31/03/2014

Cycle End Date: 28/04/2014

Active Ingredient	Default Drug Name	Admin Route	Dosage	Total Dose	Frequency	Chemo day	Drug Remark
Mesna	Mesna 400mg/4ml Inj	Intravenous Infusion	200 mg/m ²	370 mg	TDS	Day: 1,2,3,4,5	

Figure 3.4-2 Order Details

MEDICATION PROFILE

Drug Name

Visit Type

Prescription Date From

Prescription Date To

Prescription Status

Location

Order Type

Current Medication

Encounter No

Previous Medication

Encounter No

0058

Rx No.	Drug Name	Dose	Route	Frequency	Status	Visit Type	Visit Date	Duration	Prescribed Qty	Start Date	End Date
WAD 90000000639	Paracetamol 500 mg Tablet	500 mg	Oral	TDS	ORDERED	Inpatient	26/03/2014	1 Days	3	01/04/2014	02/04/2014
WAD 90000000507	Warfarin Sodium 5 mg Tablet	5 mg	Oral	OD	ORDERED	Inpatient	26/03/2014	1 Days	1	28/03/2014	29/03/2014
WAD 90000000484	Allopurinol 300 mg Tablet	300 mg	Oral	OD	ORDERED	Inpatient	26/03/2014	1 Days	1	27/03/2014	28/03/2014
WAD 90000000469	nIFEDipine 10 mg Tablet	10 mg	Oral	TDS	ORDERED	Inpatient	26/03/2014	2 Days	6	27/03/2014	29/03/2014
WAD 90000000354	ENALApril 10 mg Tablet	10 mg	Oral	OD	PREPARED	Inpatient	26/03/2014	1 Days	1	31/03/2014	01/04/2014
WAD 90000000354	Allopurinol 300 mg Tablet	300 mg	Oral	OD	PREPARED	Inpatient	26/03/2014	1 Days	1	26/03/2014	27/03/2014

Figure3.4-3 Medication Profile

STEP 3

Click on the selected **Patient Name** checkbox

STEP 4

Click on  the button to authorise the drug and an alert message will be displayed as shown in Figure 3.4-4

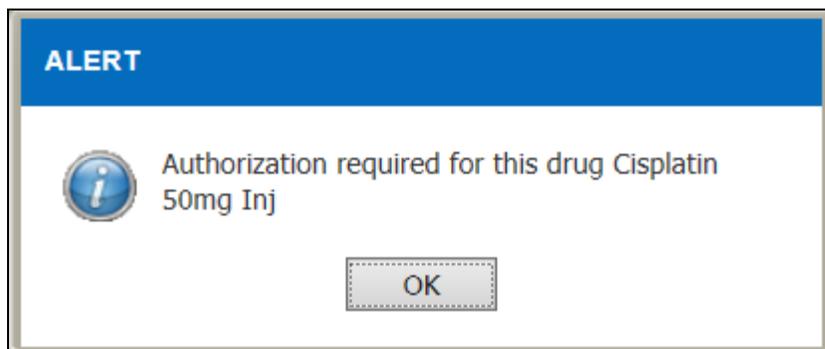


Figure 3.4-4 Alert Message

Note

Click on  the button to confirm the authorisation.

4.0 Acronyms

Abbreviation	Definition
PhIS	Pharmacy Information System
CPS	Clinical Pharmacy System
MOH	Ministry Of Health
HQ	Headquarters
CDR	Cytotoxic Drug Reconstitution

5.0 Links to Clinical Modules

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