مؤسسة مستشفى سرطان الأطفال-مصر Children's Cancer Hospital Foundation - Egypt 57357	**Policy Name**: **Clinical Nutrition Support Pharmacy**

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1.0 Change of policy

1.1 No changes

2.0 Purpose

2.1 To highlight staff roles & responsibilities regarding proper management of Nutritional plan.

2.2 To ensure safe handling, preparation, transportation of nutritional products.

2.3 To ensure patients receive adequate nutritional support.

2.4 Goals of nutritional support:

2.4.1 Prevent or reverse nutritional deficits.

2.4.2 Promote normal growth and development.

2.4.3 Minimize morbidity and mortality.

2.4.4 Maximize quality of life.

2.5 Initial Criteria for nutrition support during hospitalization

3.0 Policy

3.1 Policy statement:

3.1.1 Improves the quality of life through prevention and control of malnutrition through regular monitoring of the nutritional status of the patients and nutritional support

through management of medications and nutritional products that require special handling.

3.2 Scope:

3.2.1 All inpatients and ambulatory patients.

3.3 Responsibilities

3.3.1 The nutritionist

3.3.2 The clinical nutrition support pharmacist

3.3.3 The ward pharmacist

3.3.4 The nursing teams

3.3.5 The dietician teams

4.0 Definitions /abbreviations:

4.1 CCHE: Children Cancer Hospital – 57357 Egypt

4.2 CPID: Continuous Performance Improvement Department

4.3 MMU: Medication Management & Use

4.4 MMS: Medication Management & Safety

4.5 PN: Parenteral Nutrition

4.6 EN: Enteral Nutrition

4.7 REE: Resting Energy Expenditure

4.8 NGT: Nasogastric tube

4.9 CPOE: Computerized Physician Order Entry

5.0 Procedure:

5.1 All Patients are initially screening on admission by the nurse.

5.2 Nutritionist does nutritional assessment.

5.3 There are three categories for recommended diets (oral, enteral, parental nutrition)

5.4 If the patient state acquires oral feeding the dietician continues assessment and follows up.

5.5 The attending physician will refer the case for the nutritionist in case of oral nutritional formula or enteral or parenteral nutrition are needed.

5.6 The nutritionist will write oral nutritional formula to be used oral or enteral by CPOE and the parenteral nutrition order by CPOE.

5.7 The clinical nutrition support pharmacist will review the order on Cerner and document by pharmacy review nutrition orders.

5.8 The ward pharmacist will make verification and add the oral nutritional formula or the parenteral nutrition order on access to print labels by the prep. pharmacist to prepare the order in dispensing (in case of oral) or in the IV mixing room (in case of Parenteral).

5.9 The nurses will administer the PN bag according to the administration guidelines in case of parenteral nutrition.

5.10 Clinical Nutrition Support Pharmacist has responsibility for optimizing outcomes and providing safe and effective nutrition therapy for individuals who cannot sustain adequate nutrition through oral intake.

5.11 The nutrition support pharmacist works independently and as part of the healthcare

team to assess, design, prepare, administer, monitor, auditing and modify individual treatment plans related to parenteral and enteral nutrition for those nutritionally at risk.

5.12 Enteral Nutrition Orders: see attachment

5.13 Parenteral nutrition order: see attachment

5.14 Ordering Parenteral nutrition:

5.14.1 The nutritionist will physically examine the patient, carry out nutritional assessment and prescribe the most appropriate route for nutrition support.

5.14.2 Nutritionist initiate a patient-specific formula with considerations of the patient's medical diagnosis, clinical status, disease state, according to the guidelines included in this policy.

5.14.3 If parenteral nutrition is indicated, preparation orders for parenteral nutrition will be reviewed by the clinical nutrition support pharmacist and sent for the pharmacy for preparation.

5.14.4 The clinical nutrition support pharmacist will review the indication for parenteral nutrition order, patient demographics, all the calculations in the parenteral nutrition order (osmolality, caloric needs, and fluid requirement), drug-nutrient interactions, drug-drug interactions and 24 hours recall analysis.

5.14.5 The clinical nutrition support pharmacist will follow up daily laboratory results and fluid balance.

5.14.6 The clinical nutrition support pharmacist will monitor patients on parenteral nutrition daily and make clinical pharmacy interventions.

5.14.7 Parenteral nutrition order will be verified by the clinical Pharmacist and prepared by the IV mix pharmacist.

5.15 ORDERING OF ORAL NUTRITION SUPPORT FORMULA

5.15.1 The nutritionist ordered the oral formula by CPOE.

5.15.2 The ward pharmacist review order as per review policy.

5.15.3 The dispensing pharmacist verify the order and dispense the formula and refill by extra dose order (as per extra dose policy).

5.16 Constituents of PN bag:

5.16.1 Macronutrients (Amino acids, Glucose, Lipid emulsions), Micronutrients (fat-soluble vitamins and water-soluble vitamins, trace elements and Electrolytes) and Free Amino Acid.

5.17 Preparation of PN bag:

5.17.1 PN orders will be received in the pharmacy by 3:00pm.

5.17.2 Pre-Administration Supplies: PN solution and filter from Pharmacy Infusion pump tubing, Alcohol 70% swab, Infusion pump, clean gloves, Change the PN bag, tubing and filter every 24 hours.

5.17.3 Keep the PN bag refrigerated until 30 minutes prior to hanging.

5.17.4 Check the PN bag label for the patient's name, the ordered emulsion and electrolyte Additions (2 in 1 or 3 in 1 formulation), expiry date, and the bag for presence of particulate matter or creaming. PN bag should not be infused if visual changes or precipitates are apparent.

5.18 Compounding

5.18.1 PN bag is compounded by pharmacy IV MIX staff in a laminar airflow cabinet under clean room conditions using an aseptic non-touch technique.

5.19 Labelling Parenteral Nutrition Formulations

5.19.1 The volume of the percent of original concentration added (250 mL of 25% dextrose), Rate is expressed in mL/hour over 24 hours, list the individual electrolytes as mEq.

5.20 Administration:

5.20.1 **Maintain Venous access:**

5.20.1.1 Venous access for the administration of PN must be arranged before ordering the PN order.

5.20.1.2 The specialist pharmacists must be informed immediately if a central line is removed or replaced with a peripheral- sited cannula.

5.20.2 **Administration of oral nutrition formula:**

5.20.2.1 They are reconstituted immediately before administration.

5.20.2.2 In case of non-immediate administration for the bottle of the reconstituted formula; it is labeled with the patient barcode, open time & expire time (after 4 hours).

5.20.2.3 Order is verified & double checked as per medication administration policy.

5.20.3 **Storage PN when Delivery to the ward:**

5.20.3.1 When PN is delivered to the clinical area it should be checked (name of patient, MRN, name of the ward and the day of PN bag to be given.

5.20.3.2 Stored in the ward fridge between 2-8°C.

5.20.3.3 The temperature of the fridge should be recorded daily.

5.20.3.4 New PN solutions are supplied every 24 hours.

5.20.3.5 Remove PN bag from the fridge at least one hour prior to use.

5.20.3.6 Check the PN solution for any leakage and precipitation.

5.20.3.7 The prescription and patient's identity should be checked by two registered nurses in line with the PN bag, refer to administration policy.

5.20.3.8 If there are discrepancies between the patient's prescription and the pharmacy therapy sheet (MAR), the discrepancies must be resolved with the on-call pharmacist and/or the medical staff.

5.20.3.9 Immediately prior to starting PN, the vital signs of the child should be recorded.

5.20.3.10 If the child is unstable, the prescriber may change the rate on the prescription chart.

5.20.3.11 If the PN is not given, an incident form must be completed.
5.20.3.12 PN must be administered via an appropriate administration set.
5.20.3.13 Syringe pumps should not be used.
5.20.3.14 the amino acid solution must be covered and protected from light
5.20.3.15 Do not add any other drugs or solutions to the prepared PN.

5.20.4 Disconnection, manipulation or Interruption of the PN should be avoided whenever possible.

5.20.5 **Storage of oral nutrition formula:**
5.20.5.1 Nutrition formula cans stored as manufacturing instruction & medication storage policy.
5.20.5.2 Reconstituted nutrition formula is stable for 4 hours.

5.20.6 **If there is an accidental discontinuation:**
5.20.6.1 Return the PN administration to Pharmacy TO DISCARD.
5.20.6.2 Do not re-spike bag of PN
5.20.6.3 It is recommended that IV medications should not be administered via the PN administration set.
5.20.6.4 If the child requires multiple infusions/or antibiotics these should be filtered via a multiple lumen extension set or Y-connections should be connected to the child's CVC before connecting the PN line.
5.20.6.5 The pharmacy must be contacted for advice in case of incompatibilities.
5.20.6.6 If required, stop the infusion and give appropriate IV fluid
5.20.6.7 Inform the child's doctor
5.20.6.8 Inform the on-call pharmacist

5.21 Patient and caregiver education:
5.21.1 Ensure that the family are informed of the following:
5.21.1.1 The reason for the PN.
5.21.1.2 What it will involve.
5.21.1.3 The likely duration of the PN.
5.21.1.4 The potential side effects of PN.
5.21.1.5 The likely impact on the child and family.

6.0 References:
6.1 ASPEN 2012

7.0 Appendices:
7.1 Related Forms:
7.1.1 N/A

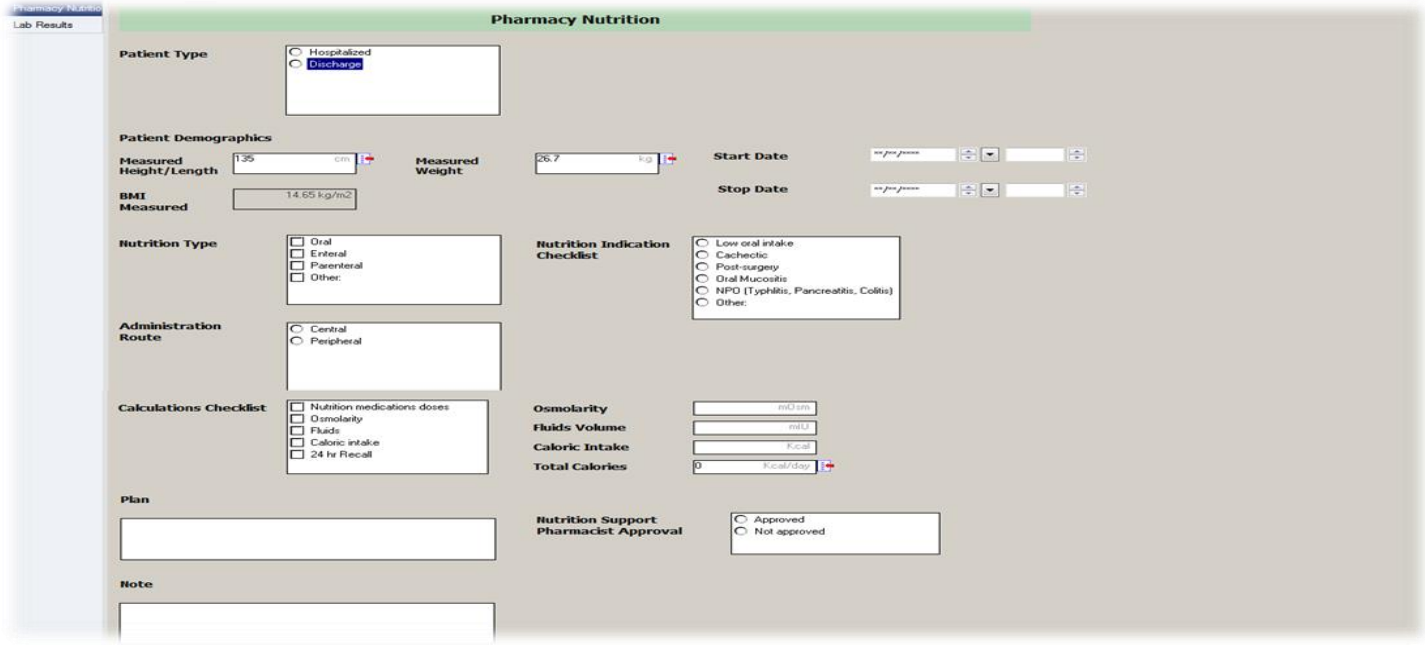
7.2 Related Policy(S):

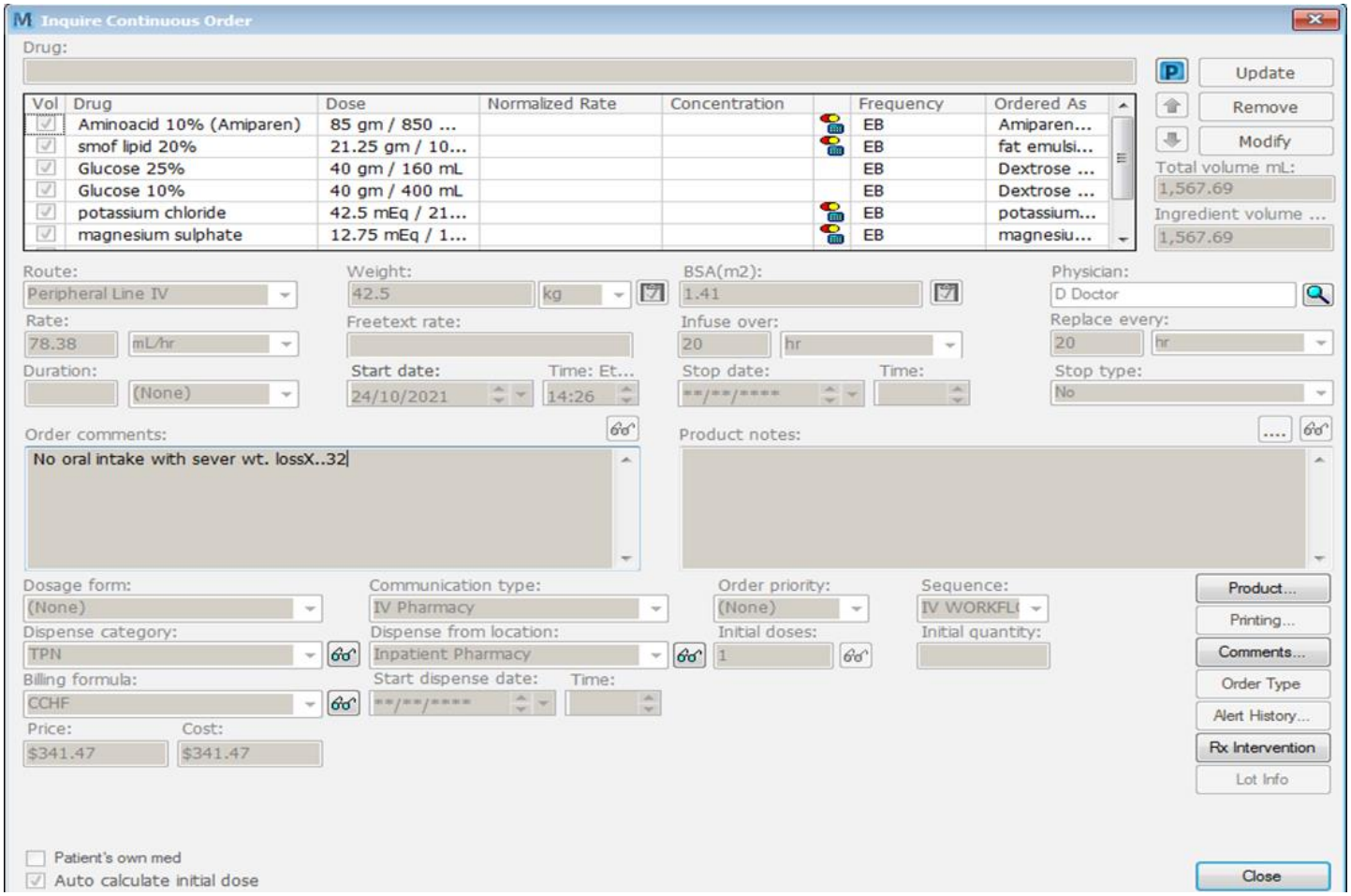
7.2.1 Medication Management Program
7.2.2 Medication administration policy
7.2.3 Review policy.
7.2.4 Medication storage policy
7.2.5 Extra dose policy.
7.2.6 Verification policy.

7.3 Related Standards:

7.3.1 Joint Commission Accreditation Standards – MMU Chapter. (MMU.5.2).
7.3.2 GAHAR Standards MMS. 09

7.4 Attachments

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Update
Remove
Modify
Total volume mL:
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Ingredient volume ...
1,567.69
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Aminoacid 10% (Amiparen) | 85 gm / 850 ... | EB | Amiparen...
smof lipid 20% | 21.25 gm / 10... | EB | fat emulsi...
Glucose 25% | 40 gm / 160 mL | EB | Dextrose ...
Glucose 10% | 40 gm / 400 mL | EB | Dextrose ...
potassium chloride | 42.5 mEq / 21... | EB | potassium...
magnesium sulphate | 12.75 mEq / 1... | EB | magnesiu...
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Weight:
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kg
BSA(m2):
1.41
Physician:
D Doctor
Rate:
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Freetext rate:
Infuse over:
20
hr
Replace every:
20
hr
Duration:
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Product notes:
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Order priority:
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Lot Info
Patient's own med
Auto calculate initial dose
Close