

APPENDIX A: ADULT PARENTERAL NUTRITION ORDER FORM

DIRECTIONS: The provider will DATE, TIME, and SIGN each order or set of orders recorded. Only one order is allowed per line. Nursing will list the time the new order(s) are noted and initial in the column provided. Orders completed during the shift in which they were written do not require recopying. They may be signed off, as completed, in the far right column.

ORDER NUMBER	PROVIDER: DATE, TIME, & SIGN EACH PAGE OF ORDERS			
ADULT PARENTERAL NUTRITION ORDER FORM				
Date:	Time:	Service:	Allergies:	
Check and complete appropriate orders, where indicated. All order amounts are PER 24 HOURS				
1. Access Route: <input type="checkbox"/> Central <input type="checkbox"/> Peripheral (must be less than 900 mOsm/liter; intended for short term use only)				
2. Rate of Infusion: <input type="checkbox"/> Infuse over 24 hours (rate determined by pharmacy, based on final volume) <input type="checkbox"/> Cyclic Infuse from _____ to _____				
3. Base Formula:				
Nutrients	Total Volume	Amino Acids	Dextrose (Carbohydrate, CHO)	
<input type="checkbox"/> Premix Central Formula withOUT electrolytes	1000 mL	8.5% 500 mL (42.5 grams protein)	50% 500 mL (250 grams dextrose)	
<input type="checkbox"/> Custom Parenteral Formulation	_____ mL (not include lipids)	Please use 500 mL increments, where clinically appropriate		
		<input type="checkbox"/> 8.5% _____ mL (42.5 grams protein/ 500 mL)	<input type="checkbox"/> 25% _____ mL (125 grams dextrose/ 500 mL)	
		<input type="checkbox"/> 10% _____ mL (50 grams protein/ 500 mL)	<input type="checkbox"/> 50% _____ mL (125 grams dextrose/ 500 mL)	
		<input type="checkbox"/> 15% _____ mL (75 grams protein/ 500 mL)	<input type="checkbox"/> 70% _____ mL (125 grams dextrose/ 500 mL)	
4. Lipids: 20% fat emulsion (2 kcal/mL) <input type="checkbox"/> 500 mL <input type="checkbox"/> 250 mL Infuse IV over 12 hours <input type="checkbox"/> every day <input type="checkbox"/> every ____ days				
5. Electrolytes and Additives (per 24 hr bag)				
Standard Electrolyte Package		Customized Electrolytes		Additives (per 24 hr bag)
Sodium 35mEq Potassium 20 mEq, Chloride 35mEq Acetate 29.5meq Magnesium 5 mEq Calcium 4.5mEq (Hospira TPN Lytes 20 mL) Does not contain phosphate		Sodium chloride _____mEq Sodium acetate _____mEq Potassium chloride _____mEq Potassium acetate _____mEq Sodium phosphate _____mMol Potassium phosphate _____mMol Magnesium sulfate _____mEq Calcium Gluconate _____mEq		<input type="checkbox"/> Trace Elements 1 mL <input type="checkbox"/> Multi-Vitamins 10 mL <input type="checkbox"/> Ascorbic acid _____mg <input type="checkbox"/> Ranitidine _____mg <input type="checkbox"/> Insulin _____units <input type="checkbox"/> On an insulin infusion <input type="checkbox"/> Phytonadione 10mg every Monday <input type="checkbox"/> Other: _____
NOTE: Maximum calcium:phosphate ratio = 50 (see reverse for calculation)				
6. Additional Orders				
a. Labs <input type="checkbox"/> Baseline: basic metabolic panel (BMP), albumin, liver function panel (if not done in last 24 hours) <input type="checkbox"/> Daily: BMP; Every other day: Calcium, magnesium, phosphate <input type="checkbox"/> Weekly: albumin, triglycerides <input type="checkbox"/> Blood glucose (BG) every 6 hours; discontinue if BG < 150 x 4; call MD for >150 for two sequential checks if not ordered for insulin				
b. For initial order (first bag): Please notify dietician and pharmacist, to complete patient assessment.				
c. Strict I/O's, daily weight				
d. Infuse total parenteral nutrition (TPN) thru a dedicated line.				
e. Use an in-line filter (0.2 micron filter for non lipid containing and 1.2 micron filter for lipid containing TPN)				
f. For discontinuation of the TPN, cut the rate by 50% for 60 minutes, then stop (to prevent hypoglycemia)				
PATIENT IDENTIFICATION		Signature _____ Date/Time _____ (Printed Name) _____		
LRMC ADULT PARENTERAL NUTRITION ORDER FORM		Nursing Unit	Room No.	Page No. 1

MEDCOM FORM 688-R (MCHO) PREVIOUS EDITIONS ARE OBSOLETE MCEUL OP-347(rev) 2 Mar 99 MRRC apprvl, 4 Feb 99						
GUIDELINES FOR ORDERING ADULT PARENTERAL NUTRITION						
SUBSTRATES		KCAL SUPPLIED		COMMENTS		
DEXTROSE (Carbohydrate/CHO)		3.4 kcal/one gram dextrose		CHO tolerance ranges from 2-5 mg/kg/minute. Maximum CHO utilization/tolerance average is 4 mg/kg/minute: 4 x (weight in kg) x 1.44 = grams CHO/day		
AMINO ACIDS (Protein/AA)		4.0 kcal/one gram protein		6.25 gm protein per 1 gm Nitrogen. Dosage depends on degree of stress/injury, renal/liver function		
LIPID (Fat)		9.0 kcal/ one gram fat (20% = 2.0 kcal/mL) (Propofol = 1.1 kcal/mL)		Not to exceed 30% of total kcals or 0.8 grams fat/kg		
ADDITIVES						
Electrolytes		Normal Range of Daily Requirements			Recommended Maximum per Liter	
Calcium*		10-15 mEq/day (5 mEq/liter)			(up to) 10 mEq (when combined with P)	
Magnesium		8-24 mEq/day (5 mEq/liter)			(up to) 15 mEq	
Potassium		90-240 mEq/day (20-50 mEq/liter)			(up to) 80 mEq	
Sodium		60-150 mEq/day (20-50 mEq/liter)			Wide Range	
Acetate		80-120 mEq/day (30-50 mEq/liter)			Wide Range	
Chloride		60-150 mEq/day (20-50 mEq/liter)			Wide Range	
Phosphorus**		30-50 mMol/day (10-15 mMol/liter)			(up to) 30 mMol (when combined with Ca)	
*Calcium gluconate provides approximately 5 mEq Ca/gram						
**Potassium phosphate provides 0.68 mMol phosphate/1 mEq K; sodium phosphate provides 0.75 mMol phosphate/1 mEq Na						
Vitamins:		One Multi-Vitamin package (10 mL) provides the following:				
		Retinol (A) 3300 units (1 mg)		Ascorbic Acid 200 mg Riboflavin (B2) 3.6 mg		Folic acid 600 mcg
		Ergocalciferol (D) 200 units(5 mcg)		Thiamine (B1) 6 mg Pyridoxine (B6) 6 mg		Cyanocobalamin (B12) 5 mcg
		Tocopherol (E) 10 units (10 mcg)		Pantothenic acid 15mg		Niacinamide 40 mg
		Phytonadione (K) 150 mcg		Biotin 60 mcg		
Trace Elements:		One dose of 1 mL should be administered daily except with renal failure and/or liver dysfunction.				
		One trace minerals package provides the following:				
		Zinc 5 mg **		Copper 1 mg	Manganese 0.5 mg	Chromium 10 mcg
		Additional supplementation of trace elements may be required based upon degree of stress, injury or disease state				
		*Additional 2.0 mg Zinc/day in acute catabolism; 12.2 mg/L small bowel fluid losses; 17 mg/kg stool or ileostomy output				
		Selenium should be supplemented with long-term parenteral nutrition (60 micrograms/day).				
Regular Insulin:		It is recommended that insulin be provided on a sliding scale requirement or by an insulin drip. If added to parentral nutrition orders, it should be in amounts <u>no less than 10 units per liter</u> and <u>only to the nearest 5 or 10 units per liter</u> .				
Calcium:		Phosphate calculation Ca ⁺² in each liter (mEq) + [2 x PO ₄ in each liter (mMol)] must be less than or equal to 50, to prevent precipitation of CaPO ₄				
GENERAL REQUIREMENTS						
	Kcals:	25-35 kcal/kg dry weight 25-30 kcal/kg dry weight for ventilated pts				
	Protein:	1.0-1.5 grams protein/kg 1.5-2.0 grams protein/kg in trauma/head injury In obese pts: use IBW to calculate protein needs				
	Fluid:	30-35 mL/kg				
OSMOLARITY (mOsm) for PPN						
	CHO	mOsm/L	Protein	mOsm/L	Fat	mOsm/L
	D ₁₀ W	505	AA 8.5%	890	20% lipids	260
	D ₂₀ W	1010	AA 10%	1000		
	D ₃₀ W	1515	AA 15%	1500		
	Maximum recommended mOsm for PPN = 900mOsm/liter (maximum example: D20W 500 mL and AA 8.5% 500 mL)					