



BON SECOURS
RICHMOND HEALTH SYSTEM



- Memorial Regional Medical Center
- Richmond Community Hospital
- St. Francis Medical Center
- St. Mary's Hospital

Place patient label inside box (if no patient label, complete below)

Name: _____
 DOB: _____
 MR #: _____

Parenteral Nutrition Order Form for Adults & Pediatric Patients 12 years Or Older and 50 kg or more	Weight (kg) _____ Height (Inches) _____
--	---

1. **Parenteral Nutrition must be ordered or renewed daily.**
2. Daily orders, changes and renewals are to be written on this form only. Other order forms will not be accepted.
3. Orders **Must** be in Pharmacy by **2 pm**. TPN starts at 6 pm daily.
4. SMH only: Critical care custom TPN orders must be in pharmacy by 11 am in order to start at 2 pm.

Refeeding Syndrome Precautions (For malnourished patients, alcoholics, cachexia, or prolonged NPO greater than 5 days.)
 Check and replete potassium, phosphorous, and magnesium prior to initiation and during progression of TPN.
 Day 1 Amino acids 4.25%, Dextrose 10% with multivitamins, trace elements, 100 mg thiamine at 42 ml/hr.
 Day 2 Maintain TPN at 42 ml/hr until potassium, phosphorous, magnesium and glucose are within desirable range.
 Day 3 Advance rate gradually over several days to goal and start lipids. Continue 100 mg thiamine per day for one week.

Central TPN <input type="checkbox"/> Amino Acids 5%, Dextrose 15% (710 kcal/liter) <input type="checkbox"/> Amino Acids 5%, Dextrose 20% (880 kcal/liter) <input type="checkbox"/> Amino Acids 5%, Dextrose 25% (1050 kcal/liter) <input type="checkbox"/> Other: Amino Acids _____%, Dextrose _____%	Peripheral TPN (Maximum: Dextrose 10%, Amino Acids 4.25%) <input type="checkbox"/> Amino Acids 4.25%, Dextrose 10% (510 kcal/liter)
--	---

<input type="checkbox"/> Standard Electrolytes Sodium Chloride 35 meq/L Potassium Acetate 20 meq/L Calcium Gluconate 4.5 meq/L Potassium Phosphate 15 mM/L (contains Potassium 22 meq/L) Magnesium Sulfate 5 meq/L	<input type="checkbox"/> Custom Electrolytes Sodium Chloride _____ meq/L Potassium Chloride _____ meq/L Calcium Gluconate _____ meq/L Potassium Phosphate _____ mM/L (1 mM Phosphate contains 1.47 meq Potassium) Magnesium Sulfate _____ meq/L Sodium Acetate _____ meq/L Potassium Acetate _____ meq/L Sodium Phosphate _____ mM/L (1 mM Phosphate contains 1.33 meq Sodium)
---	---

Recommended Additives

Vitamin K (2 mg/day) _____ mg/day
 Adult Multivitamins, (10 ml daily)* _____
 Trace Elements Adult (1 ml daily)* _____ Trace Elements Pediatric (3 ml daily)* _____
 *Multivitamins and trace elements will be added every day unless otherwise specified. Amounts are on back of form.

Additional Additives & Special Instructions Regular Insulin _____ units/L (Diabetics previously on insulin or hypoglycemic agents, add Insulin 1 unit per liter per percent of dextrose (i.e. 20 units for 20% Dextrose). If BG consistently greater than 180 mg/dl a separate insulin infusion should be started.) Order sliding scale insulin on the Diabetes Medications Form Famotidine (20-40 mg/day) _____ mg/day Thiamine (100 mg/day) _____ mg/day Other: _____	Wound Healing, Additional Additives Ascorbic Acid* (500 mg/day) _____ mg/day for 10 days Zinc (10 mg daily) _____ mg daily for 10 days *Not recommended in renal failure
--	--

TPN Rate <input type="checkbox"/> 42 ml/hr (1 liter/day) <input type="checkbox"/> 83 ml/hr (2 liters/day) <input type="checkbox"/> 125 ml/hr (3 liters/day) <input type="checkbox"/> _____ ml/hr Initiate with 1 liter of 15% or 20% Dextrose 1 st day and increase daily to goal. When discontinuing TPN cut rate in half for 1-2 hours before stopping infusion.	Lipids: (Reduce Lipids to account for Propofol infusion, which is equivalent to 10% Lipids in fat content) <input type="checkbox"/> 10% (550 kcal/500 ml) <input type="checkbox"/> 20% (1000 kcal/500 ml) Volume: <input type="checkbox"/> 500 ml/day or _____ ml <input type="checkbox"/> Over 10 hours or _____ ml/hr (less than or equal to 50 ml/hr) <input type="checkbox"/> Daily <input type="checkbox"/> Three Times a Week <input type="checkbox"/> Twice Weekly
---	--

Physician Signature _____ Pager _____ Date _____ Time _____

See Reverse Side for Usual Daily Requirements and Monitoring

1. Order baseline serum triglyceride prior to initiating lipid. Order a serum triglyceride 6-8 hours after first bottle of lipid to determine lipid clearance.
 2. Input and output & weights daily.

Test/Parameter	Initial	First Week	Weekly	Every 3-5 days
Prealbumin	X			X
Triglyceride	X	X		
CBC c/diff	X			
BMP	X			
CMF + Magnesium + Phosphorus	X			

SUGGESTED LAB MONITORING FOR MEDICALLY STABLE PATIENT

Start with regular insulin 0.1 unit/gram of dextrose per liter for diabetics. If BG is consistently greater than 180 mg/dl a separate insulin infusion should be started. If hypoglycemia occurs cut insulin in TPN by 50%.

Blood Glucose Goal 100-180 mg/dl

500 ml of 10% lipids twice a week or 5% of weekly calories as fat
 Minimum to prevent essential fatty acid deficiency
 Maximum 60% of non protein calories/day or 2.5 gm/kg/day for adults
 Critically ill less than 1 gm/kg/day
 Hepatic failure 25 gm/day
 Chronic renal failure 25 gm/day

Common Adult Fat Requirements

Usual 25-50 gm/day
 Undialyzed 0.6-0.8 gm/kg/day
 Dialyzed 1.2-1.5 gm/kg/day
 Chronic Renal failure
 Predialysis 0.6-0.8 gm/kg/day
 Hemodialysis 1-1.2 gm/kg/day
 Peritoneal dialysis 1-1.5 gm/kg/day

Renal failure

Acute renal failure
 Undialyzed 0.6-0.8 gm/kg/day
 Dialyzed 1.2-1.5 gm/kg/day

Liver failure

Encephalopathic 0.6-0.8 gm/kg/day
 Non Encephalopathic 1-1.2 gm/kg/day

Albumin (g/dL)

Mild Depletion 2.8-3.5
 Moderate Depletion 2.1-2.7
 Severe Depletion less than 2.1

Prealbumin (mg/dL)

Mild Depletion 10-19
 Moderate Depletion 5-10
 Severe Depletion less than 5

Based on Depletion Standards

Common Adult Protein Requirements

Adult 5 mg/kg/minute (7.2 gm/kg/day)
 12-18 years 7-10 mg/kg/min (14 gm/kg/day)

Usual Adult Maximum Dextrose infusion rate

25-35 kcal/kg/day (Total calories)

Usual Adult Caloric Requirements

Adult 25-40 ml/kg/day
 Pediatrics 1500 ml/day plus 20 ml/kg for each kg over 20 kg

Trace Elements per Day:	Adult	Pediatric*	Multivitamins per Day:	Adult
Zinc	5 mg	3 mg	Ascorbic Acid	200 mg
Copper	1 mg	0.3 mg	Vitamin A (retinol)	3300 units
Manganese	0.5 mg	0.075 mg	Ergocalciferol (Vit. D)	200 units
Chromium	10 mcg	3 mcg	Thiamine (B ₁)	6 mg
Selenium	60 mcg	40 mcg*	Riboflavin (B ₂)	3.6 mg
* 3 ml of Trace Elements Pediatric added, plus 40 mcg of selenium				



BON SECOURS
RICHMOND HEALTH SYSTEM



- Memorial Regional Medical Center
- Richmond Community Hospital
- St. Francis Medical Center
- St. Mary's Hospital

Place patient label inside box (if no patient label, complete below)

Name: _____
 DOB: _____
 MR #: _____

Parenteral Nutrition Order Form for Adults & Pediatric Patients 12 years Or Older and 50 kg or more

Weight (kg) _____ Height (Inches) _____

1. **Parenteral Nutrition must be ordered or renewed daily.**
2. Daily orders, changes and renewals are to be written on this form only. Other order forms will not be accepted.
3. Orders **Must** be in Pharmacy by **2 pm**. TPN starts at 6 pm daily.
4. SMH only: Critical care custom TPN orders must be in pharmacy by 11 am in order to start at 2 pm.

Refeeding Syndrome Precautions (For malnourished patients, alcoholics, cachexia, or prolonged NPO greater than 5 days.)

Check and replete potassium, phosphorous, and magnesium prior to initiation and during progression of TPN.
 Day 1 Amino acids 4.25%, Dextrose 10% with multivitamins, trace elements, 100 mg thiamine at 42 ml/hr.
 Day 2 Maintain TPN at 42 ml/hr until potassium, phosphorous, magnesium and glucose are within desirable range.
 Day 3 Advance rate gradually over several days to goal and start lipids. Continue 100 mg thiamine per day for one week.

Central TPN

- Amino Acids 5%, Dextrose 15% (710 kcal/liter)
- Amino Acids 5%, Dextrose 20% (880 kcal/liter)
- Amino Acids 5%, Dextrose 25% (1050 kcal/liter)
- Other: Amino Acids _____%, Dextrose _____%

Peripheral TPN (Maximum: Dextrose 10%, Amino Acids 4.25%)

- Amino Acids 4.25%, Dextrose 10% (510 kcal/liter)

Standard Electrolytes

Sodium Chloride 35 meq/L
 Potassium Acetate 20 meq/L
 Calcium Gluconate 4.5 meq/L
 Potassium Phosphate 15 mM/L
 (contains Potassium 22 meq/L)
 Magnesium Sulfate 5 meq/L

Custom Electrolytes

Sodium Chloride _____ meq/L
 Potassium Chloride _____ meq/L
 Calcium Gluconate _____ meq/L
 Potassium Phosphate _____ mM/L
 (1 mM Phosphate contains 1.47 meq Potassium)
 Magnesium Sulfate _____ meq/L

 Sodium Acetate _____ meq/L
 Potassium Acetate _____ meq/L
 Sodium Phosphate _____ mM/L
 (1 mM Phosphate contains 1.33 meq Sodium)

Recommended Additives

Vitamin K (2 mg/day) _____ mg/day
 Adult Multivitamins, (10 ml daily)* _____
 Trace Elements Adult (1 ml daily)* _____ Trace Elements Pediatric (3 ml daily)* _____

*Multivitamins and trace elements will be added every day unless otherwise specified. Amounts are on back of form.

Additional Additives & Special Instructions

Regular Insulin _____ units/L
 (Diabetics previously on insulin or hypoglycemic agents, add Insulin 1 unit per liter per percent of dextrose (i.e. 20 units for 20% Dextrose). If BG consistently greater than 180 mg/dl a separate insulin infusion should be started.)
 Order sliding scale insulin on the Diabetes Medications Form
 Famotidine (20-40 mg/day) _____ mg/day
 Thiamine (100 mg/day) _____ mg/day
 Other: _____

Wound Healing, Additional Additives

Ascorbic Acid* (500 mg/day) _____ mg/day for 10 days
 Zinc (10 mg daily) _____ mg daily for 10 days
 *Not recommended in renal failure

TPN Rate

- 42 ml/hr (1 liter/day)
- 83 ml/hr (2 liters/day)
- 125 ml/hr (3 liters/day)
- _____ ml/hr

Initiate with 1 liter of 15% or 20% Dextrose 1st day and increase daily to goal. When discontinuing TPN cut rate in half for 1-2 hours before stopping infusion.

Lipids:

(Reduce Lipids to account for Propofol infusion, which is equivalent to 10% Lipids in fat content)
 10% (550 kcal/500 ml)
 20% (1000 kcal/500 ml)
 Volume: 500 ml/day or _____ ml
 Over 10 hours or _____ ml/hr (less than or equal to 50 ml/hr)
 Daily Three Times a Week Twice Weekly

Physician Signature _____ Pager _____ Date _____ Time _____

See Reverse Side for Usual Daily Requirements and Monitoring

1. Order baseline serum triglyceride prior to initiating lipid. Order a serum triglyceride 6-8 hours after first bottle of lipid to determine lipid clearance.
 2. Input and output & weights daily.

Test/Parameter	Initial	First Week	Weekly	Every 3-5 days
Prealbumin	X			X
Triglyceride	X	X		
CBC c/diff	X			
BMP	X			
CMP + Magnesium + Phosphorus	X			

SUGGESTED LAB MONITORING FOR MEDICALLY STABLE PATIENT

Start with regular insulin 0.1 unit/gram of dextrose per liter for diabetics. If BG is consistently greater than 180 mg/dl a separate insulin infusion should be started. If hypoglycemia occurs cut insulin in TPN by 50%.

Blood Glucose Goal 100-180 mg/dl

Chronic renal failure 25 gm/day
 Hepatic failure 25 gm/day
 Critically ill less than 1 gm/kg/day
 Maximum 60% of non protein calories/day or 2.5 gm/kg/day for adults
 500 ml of 10% lipids twice a week or 5% of weekly calories as fat
 Minimum to prevent essential fatty acid deficiency
 Usual 25-50 gm/day

Common Adult Fat Requirements

Peritoneal dialysis 1-1.5 gm/kg/day
 Hemodialysis 1-1.2 gm/kg/day
 Predialysis 0.6-0.8 gm/kg/day
 Chronic Renal failure
 Undialyzed 1.2-1.5 gm/kg/day
 Dialyzed 0.6-0.8 gm/kg/day
 Acute renal failure
 Renal failure
 Non Encephalopathic 1-1.2 gm/kg/day
 Encephalopathic 0.6-0.8 gm/kg/day

Liver failure

Severe Depletion less than 5
 Moderate Depletion 5-10
 Mild Depletion 10-19
Prealbumin (mg/dL)
 Severe Depletion less than 2.1
 Moderate Depletion 2.1-2.7
 Mild Depletion 2.8-3.5
Albumin (g/dL)
 Based on Depletion Standards

Common Adult Protein Requirements

12-18 years 7-10 mg/kg/min (14 gm/kg/day)
 Adult 5 mg/kg/minute (7.2 gm/kg/day)

Usual Adult Maximum Dextrose infusion rate

25-35 kcal/kg/day (Total calories)

Usual Adult Caloric Requirements

Pediatrics 1500 ml/day plus 20 ml/kg for each kg over 20 kg
 Adult 25-40 ml/kg/day

Trace Elements per Day:		Multivitamins per Day:	
3 ml of Trace Elements Pediatric added, plus 40 mcg of selenium		Ascorbic Acid	200 mg
Zinc	5 mg	Vitamin A (retinol)	3300 units
Copper	1 mg	Ergocalciferol (Vit. D)	200 units
Manganese	0.5 mg	Thiamine (B ₁)	6 mg
Chromium	10 mcg	Riboflavin (B ₂)	3.6 mg
Selenium	60 mcg	Pyridoxine (B ₆)	6 mg
		Niacinamide (B ₃)	40 mg
		Pantothenic Acid	15 mg
		Vitamin E	10 mg
		Biotin	60 mcg
		Folic acid	600 mcg
		Cyanocobalamin (B ₁₂)	5 mcg