Calculation Guidelines for a Central Vein Parenteral Nutrition Formula
(Assumes NORMAL renal, hepatic, and cardiac function)

(THese are not orders)

1. Calculate patient’s feeding weight __________ Kg
   Measure actual body weight (ABW) Calculate ideal body weight (IBW)
   Male IBW 50 Kg (for first 5 feet) + (2.3 Kg x each inch over 5 feet)
   Female IBW 45.5 Kg (for first 5 feet) + (2.3 Kg x each inch over 5 feet)
   If ABW greater than 120% of IBW, use [(ABW – IBW) x 0.25] + IBW = Adjusted weight for feeding
   If ABW less than IBW, use ABW for feeding weight

2. Determine non-protein kcal (NPC) [dextrose and fat calories]

<table>
<thead>
<tr>
<th>Stress Level</th>
<th>NPC/ Kg' day</th>
<th>x feeding wt (Kg)</th>
<th>=</th>
<th>NPC/ day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild/Moderate</td>
<td>15-20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>20-25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Determine amounts of dextrose and lipid
   NPCi day __________________________ NPC/day
   Subtract lipids 20%, 100 ml (2 kcal / mL) _____ - 200 kcal lipid
   Calories from dextrose = __________________ kcal dextrose / day
   Grams of dextrose (3.4 kcal / gram dextrose) = ________ grams dextrose / day

4. Determine nitrogen (N2) protein needs

<table>
<thead>
<tr>
<th>Stress level</th>
<th>grams N2 Kg / day x feeding wt (Kg)</th>
<th>= N2 grams / day</th>
<th>x</th>
<th>grams protein</th>
<th>=</th>
<th>grams protein / day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild/Moderate</td>
<td>0.20 – 0.24 x __________</td>
<td>= __________</td>
<td>x</td>
<td>6.5</td>
<td>= ________ grams protein / day</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>0.25 – 0.28 x __________</td>
<td>= __________</td>
<td>x</td>
<td>6.5</td>
<td>= ________ grams protein / day</td>
<td></td>
</tr>
</tbody>
</table>

5. Determine fluid needs:
   mL / kg / day x feeding wt (Kg) = Fluid needs / day (mL) + 1000 = TPN volume (L)
   25 – 35 x __________ = __________ + 1000 = __________ TPN volume (L)

6. Write Parenteral nutrition order
   Dextrose (grams / day) ________ grams + TPN volume (L) __________ L = Dextrose __________ grams / L
   Protein (grams / day) ________ grams + TPN volume (L) __________ L = Amino Acids __________ grams / L

   Standard Multivitamins include:
   Vitamin A 3300 international units
   Vitamin C 200 mg
   Thiamine (B1) 3 mg
   Riboflavin (B2) 3.6 mg
   Niacin (B3) 40 mg
   Pyridoxine (B6) 4 mg
   Pantothenic Acid 15 mg
   Cyanocobalamin (B12) 5 mcg
   Vitamin B12 0.15 mg
   Folic Acid 400 mcg
   Biotin 60 mcg
   Vitamin K 0.15 mg

   Standard Trace Elements include:
   Copper 1 mg
   Manganese 0.5 mg
   Selenium 60 mcg
   Zinc 5 mg
   Chromium 10 mcg

   Average Daily Electrolyte Requirements:
   Sodium 50 – 150 mEq
   Potassium 20 – 100 mEq
   Calcium 5 – 20 mEq
   Magnesium 5 – 20 mEq

   Phosphate 5 – 20 mEq
   Chloride add more in alkalosis
   Acetate add more in acidosis

*consider abnormal losses: nasogastric suctioning, wound drainage, ostomy output, diarrhea

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