



Northwest Community EMS System

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Date: May 1, 2013

System Memo: # 344

To: **All System Members**

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& add to SOPs

From: John M. Ortinou, MD, FACEP
EMS Medical Director

Re:

Substitution of DEXTROSE 10% in place of D50%

After education and **beginning JUNE 1, 2013**, EMT-Ps/PHRNs in the NWC EMSS are authorized to substitute DEXTROSE 10% (25 g/250 mL) IVPB in place of Dextrose 50% (25 g/50 mL) IVP as follows:

ALS PERSONNEL ONLY

Indication: Confirmed hypoglycemia - blood glucose (bG) <70 with S&S of hypoglycemia

Contraindication: bG normal or high; D10 should not be given sub-q or IM

Dose & Route: Calculate appropriate dose of D10% based on patient age, size, and bG level. Dextrose dosing in grams remains exactly the same as the 2011 SOPs. The only difference is the delivery method and volume of fluid infused. The maximum rate at which dextrose can be infused without producing glycosuria is 0.5 g/kg /hr.

Adult dose if bG < 60 (no S&S pulmonary edema – if lungs congested see cautions):

- DEXTROSE 10% (25 g/250mL) IVPB rapidly (wide open) - infuse **25 grams (entire 250 mL)**
Observe patient for improvement while infusion is being given.
- If S&S of hypoglycemia fully reverse and pt becomes decisional after a partial dose, reassess bG. If >70; slow D10 to TKO. Once full dose given, close clamp to D10% IV and open 0.9 NS TKO.

Adult dose if bG is borderline 60-70:

- DEXTROSE 10% (25 g/250 mL) IVPB rapidly (wide open) - infuse **12.5 grams (125 mL or ½ IV bag)**
Observe patient for improvement while infusion is being given.
- If S&S of hypoglycemia fully reverse and pt becomes decisional during infusion of the partial dose, reassess bG. If >70; slow D10 to TKO to deliver remainder of partial dose. Once given, close clamp to D10 IV and open 0.9 NS TKO.

Assess patient response 5 minutes after infusion: Mental status (GCS) and blood glucose level

If bG 70 or greater: Ongoing assessment

If bG less than 70: Repeat D10 in 5 gram (50 mL) increments at 5 -10 minute intervals. Reassess bG and mental status every 5 minutes after each increment.

Children and Infants (up to 50 kg or 110 lbs) if bG < 60:

- DEXTROSE 10% (25 g/250 mL) **0.5 g/kg up to 25 g** (5mL/kg). See chart on page 2.
For smaller children, draw up desired volume into a syringe and administer slow IV push.
Observe pt for improvement while dose is given.
- If S&S of hypoglycemia fully reverse and pt becomes decisional after a partial dose, reassess bG. If >70; slow D10 to TKO to deliver remainder of calculated dose. Once given, close clamp to D10% IV and open 0.9 NS TKO.
- If no improvement after first D10 dose **and** bG remains <70: give additional D10 IVPB 0.5 g/kg (5 mL/kg) 5 minutes after initial medication dose followed by reassessment up to 25 g.

Children and Infants (up to 50 kg or 110 lbs) if bG is borderline 60-70 and symptomatic:

Give half (½) of the dose as listed above.

Cautions:

Administering too forcefully can result in loss of IV line and damage to surrounding tissues. Exercise care to insure that the IV catheter is well within the lumen of the vein and that extravasation of the medication does not occur. If IV infiltration with fluid extravasation does occur, immediately stop the infusion and inform OLMC.

If pt has HF or a history of HF and lungs are clear: dose as above, but slow infusion rate to 50 mL increments followed by reassessment

If pt has HF and lungs have crackles or wheezes: Call OLMC for orders

Side effects:

Hyperglycemia. The following are not as likely with D10 as D50: hyperosmolarity, hypervolemia, phlebitis, pulmonary edema, cerebral hemorrhage, cerebral ischemia

DOCUMENTATION

Presenting S&S of hypoglycemia; baseline bG level; lack of contraindications; drug name, concentration, dose (in grams), route, time given; patient response (repeat bG level and mental status); any side effects and/or complications.

Peds dosing DEXTROSE 10% (25 g/250 mL) Dose: 0.5 g/kg (5 mL/kg) (0.1 g/1 mL in solution) Max initial dose: 25 g					
Weight	Dose g = mL	Weight	Dose g = mL	Weight	Dose g = mL
6.6 lbs = 3 kg	1.5 g = 15 mL	41.8 lbs = 19 kg	9.5 g = 95 mL	77 lbs = 35 kg	17.5 g / 175 mL
8.8 lbs = 4 kg	2 g = 20 mL	44 lbs = 20 kg	10 g = 100 mL	79.2 lbs = 36 kg	18 g = 180 mL
11 lbs = 5 kg	2.5 g = 25 mL	46.2 lbs = 21 kg	10.5 g = 105 mL	81.4 lbs = 37 kg	18.5 g = 185 mL
13.2 lbs = 6 kg	3 g = 30 mL	48.4 lbs = 22 kg	11 g = 110 mL	83.6 lbs = 38 kg	19 g = 190 mL
15.4 lbs = 7 kg	3.5 g = 35 mL	50.6 lbs = 23 kg	11.5 g = 115 mL	85.8 lbs = 39 kg	19.5 g = 195 mL
17.6 lbs = 8 kg	4 g = 40 mL	52.8 lbs = 24 kg	12 g = 120 mL	88 lbs = 40 kg	20 g = 200 mL
19.8 lbs = 9 kg	4.5 g = 45 mL	55 lbs = 25 kg	12.5 g = 125 mL	90.2 lbs = 41 kg	20.5 g = 205 mL
22 lbs = 10 kg	5 g = 50 mL	57.2 lbs = 26 kg	13 g = 130 mL	92.4 lbs = 42 kg	21 g = 210 mL
24.2 lbs = 11 kg	5.5 g = 55 mL	59.4 lbs = 27 kg	13.5 g = 135 mL	94.6 lbs = 43 kg	21.5 g = 215 mL
26.4 lbs = 12 kg	6 g = 60 mL	61.6 lbs = 28 kg	14 g = 140 mL	96.8 lbs = 44 kg	22 g = 220 mL
28.6 lbs = 13 kg	6.5 g = 65 mL	63.8 lbs = 29 kg	14.5 g = 145 mL	99 lbs = 45 kg	22.5 g = 225 mL
30.8 lbs = 14 kg	7 g = 70 mL	66 lbs = 30 kg	15 g = 150 mL	101.2 lbs = 46 kg	23 g = 230 mL
33 lbs = 15 kg	7.5 g = 75 mL	68.2 lbs = 31 kg	15.5 g = 155 mL	103.4 lbs = 47 kg	23.5 g = 235 mL
35.2 lbs = 16 kg	8 g = 80 mL	70.4 lbs = 32 kg	16 g = 160 mL	105.6 lbs = 48 kg	24 g = 240 mL
37.4 lbs = 17 kg	8.5 g = 85 mL	72.6 lbs = 33 kg	16.5 g = 165 mL	107.8 lbs = 49 kg	24.5 g = 245 mL
39.6 lbs = 18 kg	9 g = 90 mL	74.8 lbs = 34 kg	17 g = 170 mL	110 lbs = 50 kg	25 g = 250 mL

Thank you for your attention in this matter. Should you have an immediate need to begin using the D10 solutions due to lack of D50 stock or have any questions related to this General Notice, contact me at jortinau@nch.org or Connie Mattera at cmattera@nch.org