Dextrose 50% and Dextrose 25% Preload Shortage

To: Pre-Hospital and In-Hospital Emergency Care Personnel

From: Tennessee Committee on Pediatric Emergency Care (CoPEC)

Effective Date: 4 June 2013

As most of you are aware, there is a nationwide shortage on Dextrose D50 (50%) and Dextrose D25 (25%) preload injectable syringes. Many hospitals and EMS agencies are intermittently unable to obtain sufficient dextrose from multiple pharmaceutical distributors. In order to help provide seamless care to our pediatric patients, we would like to offer the following guidelines. *We would like to thank Giles County EMS for generously sharing their protocol and the below chart.*

Dextrose D50 (50%) and Dextrose D25 (25%) preload injectables (syringes) may be substituted with Dextrose D10 (10%) premixed IV bags or Dextrose D5 (5%) premixed IV bags . CoPEC Medical Direction does not believe that substituting Dextrose D10 (10%) or Dextrose D5 (5%) IV bags for Dextrose D50 (50%) and Dextrose D25 (25%) preload injectable syringes will negatively affect the delivery or quality of patient care.

Please be aware that large volume infusions of D10 or D5 could possibly lead to hyponatremia and hyponatremic seizures. These seizures will be unresponsive to standard benzodiazepine therapy and should be treated with Normal Saline in consultation with Medical Control.

If you have questions regarding this protocol, please contact your local Comprehensive Regional Pediatric Center (CRPC) Coordinator.

> Children's Hospital at Erlanger: Marisa Moyers, 423-778-7262 or Joel Dishroon, 423-778-6617
> East Tennessee Children's Hospital: Angie Bowen, 865-541-8523
> LeBonheur Children's Hospital: Tammie Alexander, 901-800-6768
> Monroe Carrell, Jr. Children's Hospital at Vanderbilt: Eric Clauss, 615-322-1911 or Lee Blair, 615-875-4650

In the absence of D50 or D25, Dextrose D10 (10%) or Dextrose D5 (5%) premixed IV bags may be substituted using the following guidelines.

PEDIATRIC

- For the purpose of this protocol, a pediatric patient is defined as anyone under the age of 8 years old.
- In all critically ill or injured pediatric patients, perform a rapid glucose test to rule out hypoglycemia as a cause of or a contributing factor to shock or decreased level of consciousness.
- Pediatric hypoglycemia is defined as:

Age	Consensus Definition of Hypoglycemia
Preterm neonates Term neonates	<45 mg/dl
Infants Children Adolescents	<60 mg/dl

- If the glucose concentration is low and the child has minimal symptoms and normal mental status, administer glucose orally (e.g., orange juice or other glucose containing fluid).
- If the glucose concentration is very low or the child is symptomatic, give IV glucose.
- The pediatric Dextrose dose is 0.5g/Kg. Below is a chart listing the dosage, in milliliters, of D10 and D5 to administer in place of D25 or D50. This color code chart corresponds with the Broselow tape.
- For any child less than 19kg, the dose of D10 or D5 should be withdrawn from the IV bag and administered with the use of a syringe, or should be administered judiciously via a buretrol.
- Upon completion of the bolus, normal saline should be hung at a TKO rate.
- Reassess patient.
- <u>If patient is still hypoglycemic, contact Medical Control for additional orders.</u>

Color/ Weight	Dextrose Dose 0.5g/kg	10% Dextrose Premixed Bag	5% Dextrose Premixed Bag
3kg	1.5g	15mL	30mL
4kg	2.0g	20mL	40mL
5kg	2.5g	25mL	50mL
6-7kg	3.25g	30mL	60mL
8-9kg	4.25g	40mL	80mL
10-11kg	5.25g	50mL	100mL
12-14kg	6.5g	65mL	130mL
15-18kg	8.25g	80mL	160mL
19-23kg	10.4g	105mL	210mL
24-29kg	13g	130mL	260mL
30-36kg	16.5g	165mL	330mL