EMSWORLD PRINT ONLINE EXPO

ORIGINAL CONTRIBUTION

The Times & Tapes Are a-Changin': The Latest Broselow-Luten Tape for EMS

Scott DeBoer RN, MSN, CPEN, CEN, CCRN, CFRN, EMT-P; Lisa DeBoer CET, NREMT-P/PI; and Michael Seaver RN, BA

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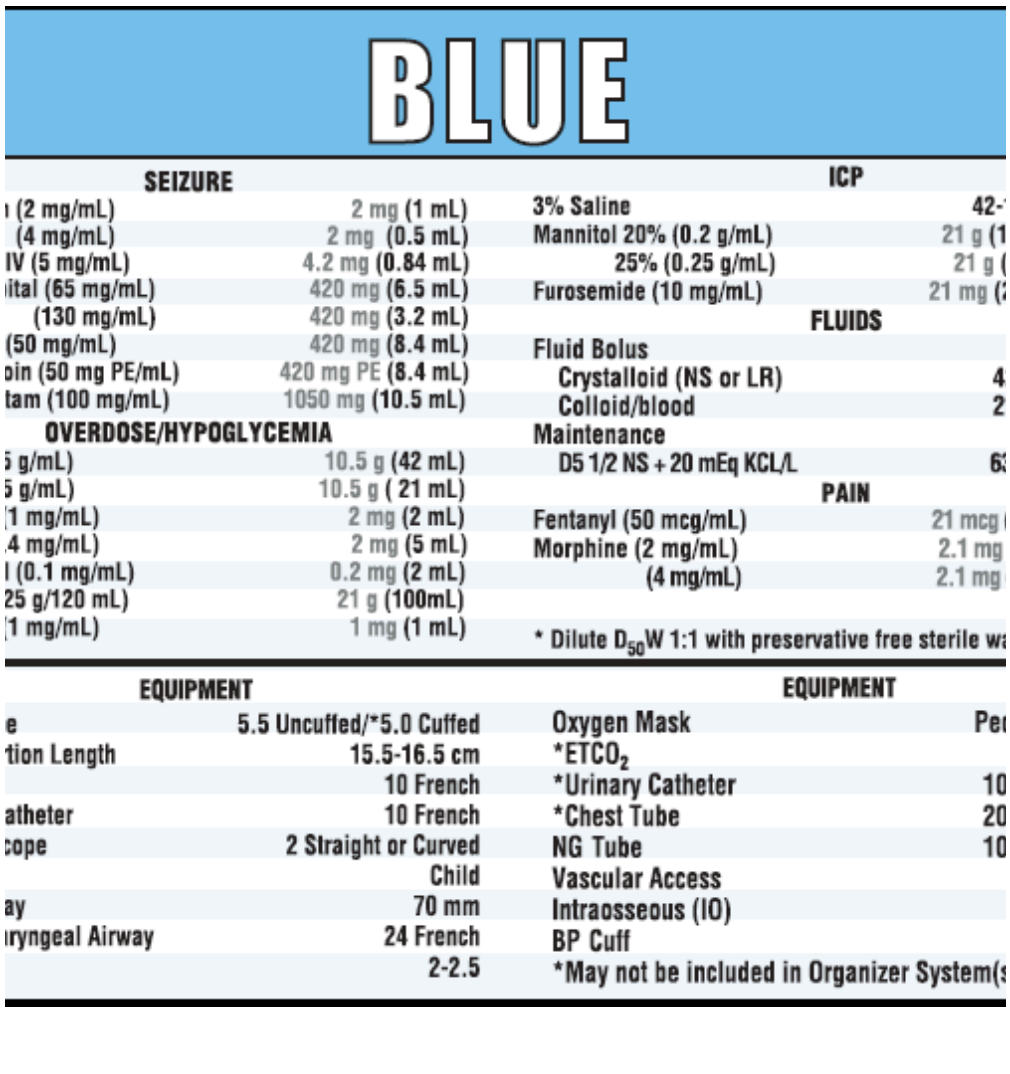

BLUE

SEIZURE	
(2 mg/mL)	2 mg (1 mL)
(4 mg/mL)	2 mg (0.5 mL)
IV (5 mg/mL)	4.2 mg (0.84 mL)
ital (65 mg/mL)	420 mg (6.5 mL)
(130 mg/mL)	420 mg (3.2 mL)
(50 mg/mL)	420 mg (8.4 mL)
oin (50 mg PE/mL)	420 mg PE (8.4 mL)
tam (100 mg/mL)	1050 mg (10.5 mL)
OVERDOSE/HYPOGLYCEMIA	
5 g/mL)	10.5 g (42 mL)
5 g/mL)	10.5 g (21 mL)
1 mg/mL)	2 mg (2 mL)
.4 mg/mL)	2 mg (5 mL)
l (0.1 mg/mL)	0.2 mg (2 mL)
25 g/120 mL)	21 g (100mL)
1 mg/mL)	1 mg (1 mL)

ICP	
3% Saline	42-
Mannitol 20% (0.2 g/mL)	21 g (1
25% (0.25 g/mL)	21 g (
Furosemide (10 mg/mL)	21 mg (2
FLUIDS	
Fluid Bolus	
Crystalloid (NS or LR)	4
Colloid/blood	2
Maintenance	
D5 1/2 NS + 20 mEq KCL/L	63
PAIN	
Fentanyl (50 mcg/mL)	21 mcg
Morphine (2 mg/mL)	2.1 mg
(4 mg/mL)	2.1 mg

* Dilute $D_{50}W$ 1:1 with preservative free sterile wa

EQUIPMENT	
e	5.5 Uncuffed/*5.0 Cuffed
tion Length	15.5-16.5 cm
	10 French
atheter	10 French
cope	2 Straight or Curved
	Child
ay	70 mm
ryngeal Airway	24 French
	2-2.5

EQUIPMENT	
Oxygen Mask	Pe
*$ETCO_2$	
*Urinary Catheter	10
*Chest Tube	20
NG Tube	10
Vascular Access	
Intraosseous (IO)	
BP Cuff	
*May not be included in Organizer System(s	

Since 1986, emergency healthcare professionals caring for critically ill or injured children have benefited from the Broselow-Luten system. Also known as the "Broselow Tape," or just "The Tape," this length-based reference tool has been an invaluable source of information and guidance in the most severe pediatric emergencies, up to and including resuscitation. Updated every few years in accordance with the latest pediatric advanced life support (PALS) guidelines, the current version of the tape is now available for clinical use. Here's a short and sweet summary of what's new.

It's important to note that it's still absolutely fine to continue using the 2017 version of the tape. There are several little changes in various tube sizes (chest tube, endotracheal tubes, NG tubes, and suction catheters), and three very helpful and important changes with the version released in late 2019.

Broselow vs. Handtevy: Colors, Weights and Ages, Oh My!

The Broselow-Luten tape first made the pediatric playlist in 1986 while the new kid on the block (ahh, 80s memories), the Handtevy system, hit the stage in 2010. Other articles have described key similarities and differences between the systems, but the color sequences (gray, red, pink, etc.) are exactly the same, as are the lengths for each color zone. However, one of the major differences between the two systems was that providers on scene could not measure the child with the Broselow-Luten tape, so they couldn't determine medications or tubes until they were able to lay hands on the patient. Handtevy, on the other hand, uses an age-based approach to resuscitation. For example, a two-year old is a yellow, so if you know the kid is a yellow, you can have the yellow stuff prepared before arriving on scene or in the ER.

But indeed, the times, they are a changin'. The latest version of the Broselow-Luten tape now incorporates a color and weight chart that includes age. So, if the age or weight of the child is known, preparations can begin before arriving on scene.

Epinephrine: Then and Now

Resuscitation and ratios go hand in hand. In BLS, we have 15:2, 30:2 and 5:1. When it comes to epinephrine, there was 1:1,000 and 1:10,000. But again, the times are a changin'. In 2015, the Institute for Safe Medical Practices (ISMP) recommended against the use of both 1:1,000 and 1:10,000 ratios due to the high risk of preventable medical errors. They recommend that epinephrine should be listed as 1 mg/mL (aka 1:1,000) and 0.1 mg/mL (aka 1:10,000), and boxes of epinephrine have reflected this change for several years. But many of us were taught (and may only remember) 1:1,000 and 1:10,000. The new tape addresses both the old and the new by showing both identifiers.

What's In a Name?

Last but not least, there are wonderfully welcomed wording changes regarding fluid boluses. Previous versions listed a fluid bolus as "volume expansion: Crystalloid (NS or LR)." While this is technically an appropriate phrase to identify actions taken to increase circulatory system volume, it's not what we commonly say or hear. For many years, educators have pleaded for this to be changed, because in both classes and real-life settings around the world, nurses, medics, and doctors have used the term "fluid boluses." Rather than introducing additional stress to already stressful situations, we are happy to report, once again, the times they are a changin'. "Volume expansion" has become "fluid bolus" and we couldn't agree more. The tape still lists crystalloid with "NS or LR" to differentiate between crystalloids from colloids (albumin, etc. and/or blood products), but most importantly, fluid bolus is now fluid bolus. Can I get an "amen!"

Kids have been getting sick for thousands of years. The Broselow-Luten tape has been helping prepare practitioners for these sick kids. As we continue to learn and grow, this latest version of the tape reminds us that the times (and the tapes), they are a changin'.