PALS Tidbits

Epinephrine
IV/IO – 1:10,000 0.01 mg/kg
ETT – 1:1,000 0.1 mg/kg
Always 0.1 ml/kg no matter the concentration

BP (5^{th} percentile)
Newborn – 60 mmHg
Up to 1 year – 70 mmHg
1 year to 10 years – 70 + 2 X age in years
> 10 years – 90 mmHg

Endotracheal tube sizes
Uncuffed – age/4 + 4
Cuffed – age/4 + 3.5
Depth – age/2 + 12 or ETT X 3

Fluid Boluses
Isotonic crystalloid – NS or LR
Newborn – 10 ml/kg
Older than newborn – 20 ml/kg

Glucose Bolus
Newborn – $D_{10}W$ 2 ml/kg
Older – $D_{25}W$ 2 to 4 ml/kg

Maintenance Fluids
< 10 kg – $D_5$0.2%NaCl @ 4 ml/kg/hr
10 to 20 kg - $D_5$0.2%NaCl @ 40 ml/hr + 2 ml/hr for each kg between 10 and 20
> 20 kg - $D_5$0.2%NaCl @ 60 ml/hr + 1 ml/hr for each kg > 20kg

Deterioration
D displaced
O obstructed
P pneumothorax (or peritoneum or pericardium)
E equipment failure

Defibrillation
2 j/kg $\rightarrow$ 4 j/kg one shock is followed immediately by 2 minutes of CPR (up to 10 j/kg or adult maximum dose)

Cardioversion
½ to 1 j/kg, may double

Reversible Causes
Hypovolemia
Hypoxia
Hydrogen ion excess
Hypo/hyperkalemia
Hypoglycemia
Hypothermia
Toxins
Tamponade
Tension Pneumothorax
Thrombosis
coronary
pulmonary

BLS

- CAB sequence
- For CPR purposes a child is 1 to puberty, for AED purposes, a child is 1 to 8 years old
- Use adult pads for 8 years old or greater
- Infant defined as < 1 year old, may use AED on infants if standard defibrillator not available
- Start compressions if no pulse or if HR < 60 with signs of poor perfusion
- Rate of compressions is 100-120/minute
- Depth is at least 1/3 of the AP diameter of the chest (1 ½ in. for infants, 2 in. for children) Ratio is
- 30:2 or 15:2 if doing two rescuer infant or child
- Two minute cycles to switch
- Rescue breathing is 12 to 20/minute or 1 breath every 3 to 5 seconds
- Once the airway is protected, compressions continue at 100-120/minute and breaths at 10/minute (every 6 seconds)

Technique

- Infant - One rescuer is two finger, Two rescuer is two thumbs with hands encircling chest, w/ thoracic squeeze
- Child - One or two hands as needed to get adequate depth

Airway Obstruction

- Conscious
  - Infant – back slaps and chest thrusts (5 each continuing)
  - Child – abdominal thrusts
- Unconscious
  - Do CPR but look in mouth before delivering each set of breaths

When a child first presents, do "initial impression" (from the doorway - LOC, work of breathing and color) to quickly identify a life threatening problem. If the child is unresponsive with no breathing or only gasping, start BLS. Otherwise, continue the evaluate, identify, intervene sequence. Evaluate includes:

Primary Assessment – A, B, C, D, E

Secondary Assessment

- S – signs and symptoms
- A – Allergies
- M – Medications
- P – Past medical history
- L – Last meal
- E – Events leading to current illness or injury

Diagnostic Tests –studies to detect and identify the presence and severity of respiratory and circulatory abnormalities, may be done at any time, even during primary and secondary assessment if necessary.

Each level of assessment should be followed by "identify" and "intervene".
"Identify" is done according to problem type and severity

	Type	Severity
Respiratory	Lower Airway Obstruction	Respiratory distress
	Upper Airway Obstruction	Respiratory failure
	Parenchymal Disease	
	Disordered Control of Breathing	
Circulatory	Hypovolemic shock	compensated
	Obstructive shock	hypotensive
	Distributive shock	
	Cardiogenic shock	

Or a combination of the above, including cardiopulmonary failure

This document is not specifically from the AHA. Instead, it reflects a summary of important points from the PALS program.