

VITAL SIGNS	Temperature	Heart Rate	Respirations	Mean Blood Pressure	THE HARDWARE	WHERE IT SHOULD BE								
Normal	97.8 ^o to 99.0 ^o F (36.5 ^o to 37.2 ^o C)	120 - 160/min.; some healthy term infants have a low, resting heart rate (90 - 110/min.)	40 - 60/min; variable, may count rates of 30 - 65 in a healthy infant	The Old Adage: MBP = gestational age ± 5; today many providers prefer MBP = GA + 5 or refer to a chart; increases with GA, weight and age of life	UAC (high-lying)	Insertion depth = BW(kg) X 3 + 9cm; T6 - T10								
Common Considerations for Below Normal Values	low fat stores, hypoglycemia, hypoxia, acidosis, sepsis, environmental factors (air temp., drafts, cold surfaces, wetness), skin probe problem, phototherapy (false high reading of skin probe; if shiny probe cover used w/phototx - cover shiny part w/tape)	bradycardia (HR < 80-100 depending on institution), apnea, hypoxia, acidosis, sepsis/infection, hypovolemia (IV ok? correct rate?), arrhythmias (indwelling UAC or UVC in good position?)	apnea (0 respirations for >20 secs. or accompanied by bradycardia) vs. normal periodic breathing, central apnea (no resp. effort) vs. obstructive (secretions, positioning, anomalies, equipment-related), with or without retractions (respiratory vs. cardiac/other etiology), prematurity, sepsis, hypoxia, anemia, polycythemia, gastric reflux (raise HOB, position left side or prone, slow gavage feed), cardiac (i.e. PDA, CHD), neurologic (i.e. IVH, seizures), narcotics, pain, adenosine, maternal magnesium therapy	hypovolemia (check IV & rate), sepsis, decreased cardiac output, PPHN, tension pneumo (rapid destabilization), UAC or equipment related (dampened waveform? reduced pulse pressure? bubbles in transducer or arterial line?), check tubing and pump if on vasopressors (disconnect before fixing to avoid bolus), pain	UVC (high-lying)	Insertion depth = 1/2UAC + 1cm; at or little above the diaphragm								
					UVC (low-lying)	insert 2-3cm for emergency use								
Common Considerations for Above Normal Values	infection, narcotic withdrawal, environmental factors, skin probe not on or in bad position, phototherapy (turn NTE/ISC down; turn back up when phototx dc'd), excessive activity (large infants), IV prostaglandins	anemia, hypoxia, sepsis, supraventricular tachycardia (HR > 220 & QRS < 0.08 seconds), caffeine & other methylxanthines, hyperthermia/over-heated infant, pain	respiratory distress, TTN, pneumothorax, anemia, hypoxia, sepsis, cardiac (i.e. PPHN, CHD), hyperthermia/over-heated infant, narcotic withdrawal, pain	shock, cardiac, renal, bronchopulmonary dysplasia, IVH, PDA, fluid overload (correct total fluid volume?), UAC or equipment related (check level of transducer & zero), vasopressor bolus (recent line change? check tubing and pump), pain	Endotracheal Tube	Weight(kg) + 6 = cms at the lip; T2 - T4; check for chest rise, equal air entry and lack of gastric air								
					Pulse oximeter	foot, hand, great toe or thumb (large infant), wrist (micropremie); light emitter and detector of probe must be facing each other through baby's extremity to be accurate!!								
					Oral or Nasal Gastric Tube	Insertion depth = Distance(cm) xiphoid process to ear lobe to tip of nose; listen for air pushed in stomach (1-2cc); aspirate (should get back air & any stomach contents)								
					Skin Temperature Probe	Supine - exposed area of abdomen (best reading over liver area); Prone - soft tissue of right or left flank; do NOT place under baby or on bony area (i.e. spine or ribs)								
REMEMBER TO LOOK AT THE WHOLE BABY. NUMBERS ARE JUST NUMBERS!!					ENDOTRACHEAL TUBE SIZE									
1000 MCG = 1 MG; 1000 MG = 1 GRAM; 1000 GRAMS = 1 KG 1 KG = 2.2046 POUNDS; 1 OUNCE = 28.35 GRAMS; 1 POUND = 453.6 GRAMS 1 TEASPOON = 5 MLs;					<table border="1"> <tr> <td><1kg</td> <td>2.5mm</td> </tr> <tr> <td>1 - 2kg</td> <td>3.0mm</td> </tr> <tr> <td>2 - 3kg</td> <td>3.5mm</td> </tr> <tr> <td>3 - 4kg</td> <td>3.5 to 4.0mm</td> </tr> </table>		<1kg	2.5mm	1 - 2kg	3.0mm	2 - 3kg	3.5mm	3 - 4kg	3.5 to 4.0mm
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<i>dortoms.com</i>														

ARTERIAL BLOOD GASES						TOTAL FLUID VOLUME	
	pH	PCO2	PO2	Bicarbonate	Base*	TFV = ml/kg/day IV rate = TFV ÷ 24 = ml/hour	
Normal	7.30 - 7.45	35 - 45	50 - 80	19 - 26	-4 - +4	CALCULATIONS FOR GTTS Alert: watch whether using mcg or mg!	
Respiratory Acidosis	low; normal if compensated	high	normal unless accompanied by hypoxia	normal; high if compensated	normal; may be high if compensated	Order: mcg/kg/min	
Metabolic Acidosis	low; normal if compensated	normal; low if compensated		low	low	dose(mcg) x wt.(kg) = mcg/min mcg/min x 60(mins/hr) = mcg/hr mcg/hr ÷ 1000 = mg/hr mg/hr ÷ ml/hr (IV rate) x total volume (ml in syringe or bag) = quantity on hand (mg in bag or syringe)	
Metabolic Alkalosis	high; normal if compensated	normal; high if compensated		high	high	Order: mg/kg/hr	
<p>CBG CO2 normal values are 35 - 50. CBG PO2 values are falsely low and irrelevant to care. Acidosis and alkalosis may have mixed etiology - both respiratory and metabolic. *Base excess or deficit reflects the amount of base that would be needed to return to normal.</p>						<p>dose(mg) x wt.(kg) = mg/hr mg/hr ÷ ml/hr (IV rate) x total volume (ml in syringe or bag) = quantity on hand (mg in bag or syringe)</p> <p>To determine rate based on dose & concentration: mg/hr ÷ quantity on hand(mg) x total volume(ml)</p>	
APGAR SCORES (1 min, 5 min then Q 5 mins til score ≥7)		0	1	2		URINE OUTPUT	
Heart rate/pulse (apical or umbilical)	Absent	less than 100	more than 100			Urine total ÷ hours (i.e. 24 for a day, 8 or 12 for a shift)	
Respirations (rate and effort)	Absent or gasping	Slow, irregular, labored, poor cry	Normal, good cry			UOP should be ≥ 1 ml/kg/hour	
Grimace (reflex irritability to stim, i.e. oral or nasal suctioning)	No response to stim	Minimal response to stim (grimace only)	Grimaces, coughs or sneezes, withdraws				
Tone (flexion and movement)	Floppy, no tone, no spontaneous movements	Slightly flexed, minimal movement	Flexed, active				
Color	Cyanotic or pale	Acrocyanosis	Pink all over				
NRP REVIEW - A quick reference - not a complete study guide!!							
1st 30 seconds		30 - 60 seconds Evaluate respirations, heart rate & color		60 - 90 seconds			
Baby's Status	Interventions	Baby's Status	Interventions	Baby's Status	Interventions		
Term baby w/clear fluid; breathing or crying; w/good tone	Warm, clear airway, dry and assess color; "routine care"	Pink & breathing w/HR>100	Observe	HR>60, apneic	PPV*		
Premature, apneic or hypertonic	Warm; position and clear airway as needed; dry, stimulate and reposition	Central cyanosis	Give oxygen	HR<60	PPV* & compressions		
Meconium in fluid; baby vigorous - good resp. effort; HR>100; w/good tone	Warm; suction mouth and nose; dry, stimulate and reposition	Apneic or HR<100	PPV*	HR<60, PPV* and compressions administered for 30 secs.	Epinephrine		
Meconium in fluid; baby not vigorous - i.e. poor resp. effort; heartrate <100; poor tone	Intubate and suction trachea (use meconium aspirator), suction mouth and nose	Breathing effectively after PPV & HR>100	Post-resuscitation care	*Intubation may be considered at several points.			