



**LEGACY
LABORATORY
SERVICES**

Pediatric Blood Gases, Critical Care Panel and ECMO Age Related Reference Ranges and Critical Values

TEST	SEX	AGE	REFERENCE RANGE	CRITICAL VALUE	
Base Excess	M/F	All Ages	-3.0 to 3.0	None defined	
Bicarbonate	M/F	All Ages	22-26 mmol/L	None defined	
Calcium, Ionized, Respiratory Therapy	M/F	0 - 1 day 1 - 2 days ≥2 days	1.08-1.28 mmol/L 1.00-1.18 mmol/L 1.12-1.26 mmol/L	Low <0.76 mmol/L	High >1.49 mmol/L
Carboxyhemoglobin, Arterial and Venous Blood	M/F	All Ages	0.5-1.5%	Low None defined	High >20.0%
Cord Blood, Arterial pH pCO2 pO2	M/F		7.15-7.38 35-60 mmHg 7-23 mmHg	≤7.15 None defined None defined	
Cord Blood, Venous pH pCO2 pO2	M/F		7.18-7.41 26-52 mmHg 15-40 mmHg	None defined None defined None defined	
ECMO, Arterial pH pCO2 pO2	M/F		7.35-7.45 34-46 mmHg 150-500 mmHg	Low <7.31 <27mmHg <91 mmHg	High >7.54 >59 mmHg None defined
ECMO, Venous pH pCO2 pO2	M/F		7.33-7.43 39-54 mmHg 30-40 mmHg	Low <7.31 <27 mmHg None defined	High >7.54 >59 mmHg None defined
Glucose	M/F	0 - 1 day 1 day - 1 month 1 month - 1 year >1 year	40-60 mg/dL 50-80 mg/dL 60-100 mg/dL 74-106 mg/dL	Low <40 mg/dL <40 mg/dL <40 mg/dL <40 mg/dL	High >300 mg/dL >300 mg/dL >500 mg/dL >500 mg/dL
Hematocrit	M/F M/F M/F M/F M F	0 - 2 weeks 2 weeks - 2 months 2 months - 1 year 1 - 5 years >5 years >5 years	42-68% 35-50% 30-40% 32-42% 40-52% 35-46%	Low <30% <18% <18% <18% <18% <18%	None defined
Hemoglobin	M/F M/F M F	0 - 2 months 2 months - 11 years >11 years >11 years	14.0-18.0 g/dL 11.0-14.0 g/dL 13.6-18.0 g/dL 11.5-16.0 g/dL	Low <10 g/dL <6.0 g/dL <6.0 g/dL <6.0 g/dL	None defined



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Oxygen Saturation, Arterial Blood	M/F	All Ages	94-99%	Low <76%	High None defined
Oxygen Saturation, Venous Blood	M/F	All Ages	60-85%	None defined	None defined
pH, Arterial Blood	M/F	All Ages	7.35-7.45	Low <7.22	High >7.59
pH, Venous Blood	M/F	All Ages	7.33-7.43	Low <7.22	High >7.59
pH, Scalp	M/F		7.25-7.50	Low <7.21	High >7.59
PCO ₂ , Arterial Blood	M/F	All Ages	34-46 mmHg	Low <21 mmHg	High >69 mmHg
PCO ₂ , Venous Blood	M/F	All Ages	39-54 mmHg	Low <11 mmHg	High >69 mmHg
PO ₂ , Arterial Blood	M/F	0 - 1 month ≥1 month	80-100 mmHg 80-100 mmHg	Low <41 mmHg <51 mmHg	High None defined
PO ₂ , Venous Blood	M/F	All Ages	25-43 mmHg	None defined	
Potassium	M/F	0 - 1 year >1 year	3.7-5.9 mmol/L 3.6-5.0 mmol/L	Low <2.9 mmol/L <2.9 mmol/L	High >7.4 mmol/L >6.1 mmol
Sodium	M/F	0 - 1 year 1 - 12 years >12 years	133-146 mmol/L 138-145 mmol/L 135-145 mmol/L	Low <126 mmol/L <121 mmol/L <121 mmol/L	High >159 mmol/L >159 mmol/L >159 mmol/L

Reference ranges are subject to update. Refer to the individual test listed on the Legacy web site or the patient chart for reference ranges at time of testing.

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