

Normal Laboratory Values

Term infants (age of life):

Value	Cord	1-12 hr	12-24 hr	24-48 hr	48-72 hr	3-10 d
Na (mEq/L)	147 (126-166)	143 (124-156)	145 (132-159)	148 (134-160)	149 (139-162)	
K (mEq/L)	7.8 (5.6-12)	6.4 (5.3-7.3)	6.3 (5.3-8.9)	6.0 (5.2-7.3)	5.9 (5.0-7.7)	
Cl (mEq/L)	103 (98-110)	101 (80-111)	103 (87-114)	102 (92-114)	103 (93-112)	
Ca (mm/L)	2.33 (2.1-2.8)	2.1 (1.8-2.3)	1.95 (1.7-2.4)	2.0 (1.5-2.5)	1.98 (1.5-2.4)	
Ca (l) (mm/L)		1.05-1.37	1.05-1.37	1.05-1.37	1.10-1.44	1.20-1.48
PO4 (mm/L)	1.8 (1.2-2.6)	1.97 (1.1-2.8)	1.84 (0.9-2.6)	1.91 (1.0-2.8)	1.87 (0.9-2.5)	
Mg (mm/L)			0.72-1.00		0.81-1.05	0.78-1.02
Urea (mm/L)	10.4 (7.5-14.3)	9.6 (2.9-12.1)	11.8 (3.2-22.5)	11.4 (4.6-27.5)	11.1 (5.4-24.3)	
Creat (mm/L)				0.04-0.11		0.01-0.09
CRP (mg/L)	<7	<7	<7	<7	<7	<7
Lactate (mm/L)	1.5-4.5	0.9-2.7	0.8-1.2			0.5-1.4
Albumin (g/L)	28-43	28-43	28-43	28-43	28-43	30-43
ALP (IU/L)	28-300	28-300	28-300	28-300	28-300	28-300
T4	8.2 (+/-1.8)		19.0 (+/-2.1)	19.0 (+/-2.1)	19.0 (+/-2.1)	15.9 (+/-3.0)
TSH			3.0-120	3.0-30		0.3-10
Cortisol (nm/L)	200-700	200-700	200-700			
17-OHP (nm/L)					0.7-12.4	0.7-12.4
Hb (g/dL)	16.8		18.4		17.8	17.0
Hct (%)	53		58		55	54
MCV	107		108		99	98
Retic (%)	3-7		3-7		1-3	0-1
WCC x 10 ⁹ /L	18.1 (9-30)	22.8 (13-38)	18.9 (9.4-34)			12.2 (5-21)
Neutro x 10 ⁹ /L	11.1 (6-26)	15.5 (6-28)	11.5 (5-21)			5.5 (1.5-10)
Lymph x 10 ⁹ /L	5.5 (2-11)	5.5 (2-11)	5.8 (2-11.5)			5.0 (2-17)
Mono x 10 ⁹ /L	1.1	1.2	1.1			1.1
Eosin x 10 ⁹ /L	0.4	0.5	0.5			0.5
Plat (10 ³ /mm ³)	150-350	150-350	150-350	150-350	150-350	150-350
PT (sec)		11-14	11-14	11-14	11-14	11-14
APTT (sec)		23-35	23-35	23-35	23-35	23-35
FBG (mg/dL)		200-400	200-400	200-400	200-400	200-400
Capillary refill		< 3 seconds	< 3 seconds	< 3 seconds	< 3 seconds	< 3 seconds

Acid Base Values* - Term and Preterm infants (by age of life):

Value	Cord	1-12 hr	12-24 hr	24-48 hr	Range**
pH	7.33 (UV)	7.30 (art)	7.30 (art)	7.39	7.25-7.45
PCO2 (mmHg)	43 (UV)	39	33	34	35-50
HCO3 (mEq/L)	21.6 (UV)	18.8	19.5	20	17-28
PO2 (mmHg)	28 (+/-8) (UV)	62 (+/-13.8)	68	63-87	60-80
Anion gap	<20	<20	<20	<20	8-16

* Capillary ranges similar except pO2 (see link)

** Very difficult to define, wide variation within/between level III Units

Electrolytes - Preterm infants (< 37 weeks) (by day of life):

Value	Day 1	Day 3	Day 7	Day 21	Day 35	Day 49
Na (mEq/L)	140 (133-146)	140 (133-146)	140 (133-146)	136 (129-142)	137 (133-148)	137 (133-142)
K (mEq/L)	5.6 (4.6-6.7)	5.6 (4.6-6.7)	5.6 (4.6-6.7)	5.8 (4.5-7.1)	5.5 (4.5-6.6)	5.7 (4.6-7.1)
Cl (mEq/L)	108 (100-117)	108 (100-117)	108 (100-117)	108 (102-116)	107 (100-115)	107 (101-115)
Ca (mm/L)	2.3 (1.5-2.9)	2.3 (1.5-2.9)	2.3 (1.5-2.9)	2.4 (2.0-2.8)	2.4 (2.2-2.6)	2.4 (2.2-2.7)
Ca (I) (mm/L)	0.81-1.41	0.72-1.44	1.04-1.52 (d5)	1.04-1.52	1.04-1.52	1.04-1.52
PO4 (mm/L)	2.5 (1.7-3.5)	2.5 (1.7-3.5)	2.5 (1.7-3.5)	2.4 (2.0-2.8)	2.3 (1.8-2.6)	2.2 (1.4-2.7)
Mg (mm/L)	0.62-1.02	0.66-1.10	0.75-1.00	0.75-1.00	0.75-1.00	0.75-1.00
Urea (mm/L)	3.3 (1.1-9.1)	3.3 (1.1-9.1)	3.3 (1.1-9.1)	4.8 (0.8-11.2)	4.8 (0.7-9.5)	4.8 (0.9-10.9)

Other Biochemistry - Preterm infants (by gestation):

Value	27 weeks	29 weeks	31 weeks	33 weeks	35 weeks
Alb (g/L)	21-33	23-34	22-35	22-35	22-36
ALP (IU/L)	35-604	119-465	112-450	110-398	113-360
Creat (mm/L) day 2	0.08-0.16	0.07-0.14	0.07-0.14	0.05-0.13	0.05-0.13
Creat (mm/L) day 7	0.05-0.11	0.04-0.12	0.04-0.12	0.02-0.11	0.02-0.11
Creat (mm/L) day 14	0.04-0.10	0.04-0.10	0.04-0.10	0.02-0.09	0.02-0.09
Creat (mm/L) day 21	0.03-0.09	0.03-0.09	0.03-0.09	0.02-0.09	0.02-0.09
Creat (mm/L) day 28	0.03-0.08	0.02-0.09	0.02-0.09	0.01-0.06	0.01-0.06

Haematology - Preterm infants (by age):

Value	Birth	12 hours	24 hours	1 week	2 weeks	1 month
Hb (g/dL)	14.0 (24wks)					
	14.5 (28wks)					
	15.0 (34wks)					
WCC x 10 ⁹ /L	18.1 (9-30)	22.8 (13--38)	18.9 (9.4-34)	12.2 (5-21)	11.4 (5-20)	10.8 (5-19.5)
Neutro x 10 ⁹ /L	11.1 (6-26)	15.5 (6-28)	11.5 (5-21)	5.5 (1.5-10)	4.5 (1-9.5)	3.8 (1-9)
Lymph x 10 ⁹ /L	5.5 (2-11)	5.5 (2-11)	5.8 (2-11.5)	5 (2-17)	5.5 (2-17)	6.0 (2.5-16.5)
Mono x 10 ⁹ /L	1.1	1.2	1.1	1.1	1.0	0.7
Eosin x 10 ⁹ /L	0.4	0.5	0.5	0.5	0.4	0.3
Plat (10 ³ /mm ³)	150-350	150-350	150-350	150-350	150-350	150-350

Coagulation Profile - Preterm infants (by age):

Value	Day 1	Day 5	Day 30			
PT (sec)	13 (10.6-16.2)	12.5 (10-15.3)	11.8 (10-13.6)			
APTT (sec)	53.6 (27-79)	50.5 (27-74)	44.7 (27-62)			
FBG (g/L)	2.43 (1.5-3.7)	2.8 (1.6-4.2)	2.54 (1.5-4.14)			

CSF - Term and Preterm infants (by age of life):

Value	Term < 7d	Term > 7d	Preterm < 7d	Preterm > 7d
WCC (mm ³)	5 (0-30)	3 (0-10)	9 (0-30)	12 (2-70)
RCC (mm ³)	9 (0-50)	<10	30 (0-333)	30
Protein (g/L)	0.6 (0.3-2.5)	0.5 (0.2-0.8)	1 (0.5-2.9)	0.9 (0.5-2.6)
Glucose (mm/L)	3 (1.5-5.5)	3 (1.5-5.5)	3 (1.5-5.5)	3 (1.5-5.5)

Urine – Term and Preterm infants

Value	Term < 7d	Term > 7d	Preterm < 7d	Preterm > 7d
WCC (per HPF)	<5	<5	<5	<5
RCC (per HPF)	0-2	0-2	0-2	0-2
Squames (per HPF)	<5	<5	<5	<5
Organisms	Nil	Nil	Nil	Nil