

# Veterinary Reference Ranges

## Table 1. Canine

Test	Units	Merck Online Veterinary Manual <sup>1</sup>	Cornell University College of Veterinary Medicine <sup>2</sup>	ASAPlab.com "Vet. Normal Values for IRMA TRUpoint Analyzer <sup>3</sup>	University of Minnesota Research Animal Resources <sup>4</sup>
pH	NA	7.31-7.42	7.31-7.46	7.40-7.42	NR
pCO <sub>2</sub> (arterial)	mmHg	29-42	27-50	33.8-39.8	NR
pCO <sub>2</sub> (venous)	mmHg	NR	27-50	35.0-44.0	NR
pO <sub>2</sub> (arterial)	mmHg	85-95	80-100	86.5-97.7	NR
pO <sub>2</sub> (venous)	mmHg	NR	NR	50.0-54.2	NR
HCO <sub>3</sub> <sup>-</sup> (arterial)	mEq/L	17-24	17-28	20.5-23.9	NR
Sodium	mmol/L	142-152	145-151	144-153	140-165
Potassium	mmol/L	3.9-5.1	3.9-5.1	4.1-5.1	4.4-6.1
Chloride	mmol/L	110-124	110-119	105-115	109-122
iCa	mmol/L	NR (tCa only)	1.16-1.40	1.06-1.38	NR
BUN	mg/dL	8-28	10-32	12-25	7-24
Glu	mg/dL	76-119	63-118	NR	80-120
Hct	%	35-57	41-58	NR	29-55

## Table 2. Feline

Test	Units	Merck Online Veterinary Manual <sup>1</sup>	Cornell University College of Veterinary Medicine <sup>2</sup>	ASAPlab.com "Vet. Normal Values for IRMA TRUpoint Analyzer <sup>3</sup>	University of Minnesota Research Animal Resources <sup>4</sup>
pH	NA	7.24-7.40	7.21-7.41	7.35-7.42	NR
pCO <sub>2</sub> (arterial)	mmHg	29-42	28-50	28.1-33.9	NR
pCO <sub>2</sub> (venous)	mmHg	NR	28-50	32.7-50.9	NR
pO <sub>2</sub> (arterial)	mmHg	85-95	80-100	101.1-112.5	NR
pO <sub>2</sub> (venous)	mmHg	NR	NR	27.2-50.0	NR
HCO <sub>3</sub> <sup>-</sup> (arterial)	mEq/L	17-24	16-23	15.4-23.4	NR
Sodium	mmol/L	146-156	149-157	147-161	140-165
Potassium	mmol/L	3.7-6.1	3.3-4.5	4.3-6.1	3.5-5.4
Chloride	mmol/L	115-130	117-127	117-123	117-129
iCa	mmol/L	NR (tCa only)	1.11-1.38	1.06-1.38	NR
BUN	mg/dL	19-34	16-36	10-30	10-30
Glu	mg/dL	60-120	64-144	NR	65-110
Hct	%	30-45	31-48	NR	25-41

"NA" = Not Applicable

"NR" = Not Reported

**Table 3. Equine**

Test	Units	Merck Online Veterinary Manual <sup>1</sup>	Cornell University College of Veterinary Medicine <sup>2</sup>	ASAPLab.com "Vet. Normal Values for IRMA TRUpoint Analyzer" <sup>3</sup>
pH	NA	7.32-7.44	7.36-7.43	7.34-7.48
pCO <sub>2</sub> (arterial)	mmHg	36-46	28-50	36-46
pCO <sub>2</sub> (venous)	mmHg	NR	28-50	38-48
pO <sub>2</sub> (arterial)	mmHg	94	80-100	80-112
pO <sub>2</sub> (venous)	mmHg	NR	NR	37-56
HCO <sub>3</sub> <sup>-</sup> (arterial)	mEq/L	24-30	26-32	22-29
Sodium	mmol/L	128-142	136-142	136-142
Potassium	mmol/L	2.9-4.6	2.2-4.6	2.2-4.6
Chloride	mmol/L	98-109	98-104	98-104
iCa	mmol/L	NR (tCa only)	1.40-1.72	1.40-1.70
BUN	mg/dL	11-27	11-28	10-24
Glu	mg/dL	62-134	71-113	NR
Hct	%	27-43	34-46	NR

"NA" = Not Applicable

"NR" = Not Reported

**Sources:**

1. The Merck Veterinary Manual online:  
[http://www.merckvetmanual.com/mvm/appendixes/reference\\_guides/hematologic\\_reference\\_ranges.html](http://www.merckvetmanual.com/mvm/appendixes/reference_guides/hematologic_reference_ranges.html)
2. Cornell University College of Veterinary Medicine online:  
<https://ahdc.vet.cornell.edu/sects/clinpath/reference/blood.cfm>
3. ASAPLab (Australia) "Veterinary Normal Values for IRMA TRUpoint Analyzer":  
[http://www.asaplab.com.au/BloodGas\\_files/Canine%20and%20Feline%20Normal%20Values.pdf](http://www.asaplab.com.au/BloodGas_files/Canine%20and%20Feline%20Normal%20Values.pdf)
4. Research Animal Resources, University of Minnesota: <http://www.ahc.umn.edu/rar/refvalues.html>
5. ASAPLab (Australia) "Equine Normal Values for IRMA TRUpoint Analyzer":  
[http://www.asaplab.com.au/BloodGas\\_files/EQUINE%20NORMAL%20VALUES.pdf](http://www.asaplab.com.au/BloodGas_files/EQUINE%20NORMAL%20VALUES.pdf)