

BLOOD PRESSURE REFERENCE VALUES

Which Blood Pressure is Normal in Dogs or Cats?¹

It is essential to know the reference range of blood pressure in a given species in order to properly evaluate the animal's blood pressure and detect hypertension or hypotension. When using different measurement techniques (oscillometry or direct blood pressure measurements), one must also remember that methodological factors influence results. Therefore, technique-specific reference values should be known. Species-specific, breed-specific, and individual differences in normal blood pressure ranges can be observed. The most accurate assessments are made by comparing different blood pressure readings over time using serial measurements made at regular intervals (at least once yearly). This makes it possible to detect the initial signs of related disease (e.g. cardiovascular and renal disease) more sensitively and at an earlier stage. The normal values for dogs and cats are not identical.

FELINE NORMAL VALUES

The blood pressure values for cats are not breed-specific. However, the most sensitive way to detect changes in feline blood pressure is also by comparing individual blood pressure readings taken over time.

Normal feline blood pressure: 124/84 Other investigators have reported comparable reference values:

Cat	
125 ± 11/89 ± 9	Brown et al, 1997
123 ± 14/88 ± 15	Curtet, 2001
125 ± 12/86 ± 15	Weber et al, 2002

CANINE NORMAL VALUES

The normal values for dogs are breed-specific. Those for Golden Retrievers, Labradors and giant breeds tend to be lower than the overall average, and those for greyhounds and in general racing hounds tend to be higher. The table that follows lists the normal values for common dog breeds using oscillometric blood pressure monitors.

Average canine blood pressure: 133/75

This figure was calculated as the mean of 1782 oscillometric measurement in clinically healthy dogs of different breeds. The overall average is therefore serves as a point of reference only. The individual, or at least breed-specific value must be known to most accurately determine whether a given patient's blood pressure deviates from normal.

Canine reference values (determined using an oscillometric system)			
Breed	Systolic (mmHg)	Diastolic (mmHg)	Pulse rate
Labrador Retriever	118 ± 17	66 ± 13	99 ± 19
Golden Retriever	122 ± 14	70 ± 11	95 ± 15
Great Pyrenees	120 ± 16	66 ± 6	95 ± 15
Yorkshire Terrier	121 ± 12	69 ± 13	120 ± 14
West Highland	126 ± 6	83 ± 7	112 ± 13
Border Collie	131 ± 14	75 ± 12	101 ± 21
King Charles Spaniel	131 ± 16	72 ± 14	124 ± 24
German Shepherd	132 ± 13	75 ± 10	108 ± 23
Terrier	136 ± 16	76 ± 12	104 ± 16
Bullterrier	134 ± 12	77 ± 17	122 ± 6
Chihuahua	134 ± 9	84 ± 12	109 ± 12
Miniature Breeds	136 ± 13	74 ± 17	117 ± 13
Pomeranian	136 ± 12	76 ± 13	131 ± 14
Beagle	140 ± 15	79 ± 13	104 ± 16
Dachshound	142 ± 10	85 ± 15	98 ± 17
Saluki	143 ± 16	88 ± 10	98 ± 22
Greyhound	149 ± 20	87 ± 16	114 ± 28
Pointer	145 ± 17	83 ± 15	102 ± 14

GUIDELINES²

Mean arterial pressure (MAP): Minimum to adequately perfuse all peripheral tissue beds: 60 – 70 mmHg

Hypertension: Suspect with systolic pressure greater than 150 mmHg; affirmed when above 160-170 mmHg; also affirmed in cats when diastolic pressure is above 100 mmHg.

Hypotension: During anesthesia, generally maintain systolic pressure above 80 mmHg.

¹ Adapted from "Essential Facts of Blood Pressure in Dogs and Cats," Egner, Carr & Brown, © 2003
² Info per Dr. Donald Sawyer, Michigan State University