

METHODS

TABLE FOR ELECTROCARDIOGRAPHIC ANALYSIS IN THE DOG

A. M. Malygin

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Analysis of the electrocardiogram (ECG) in dogs is made difficult by the length of time needed to calculate the various indices. Because of this the author has compiled a table by means of which the heart rate per minute, the actual and normal systolic indices, and the normal duration of electrical systole for a given cardiac rhythm can be determined from the values of the R-R and Q-T intervals of the ECG.

The first column gives the duration of the R-R interval of the ECG. The second column gives the corresponding heart rate per minute. In the following columns the values of the systolic index are given in percentages as determined by L. I. Fogel'son and I. A. Chernogorov [1, 2].

The actual systolic index is determined from the duration of electrical systole measured on the ECG. It is given in the column corresponding to the measured value of the Q-T interval. The normal systolic index is underlined.

Determination of Normal Electrical Systole, Systolic Index (in %) and Heart Rate from Electrocardiographic Data in Dogs

R-R interval (in sec)	Heart rate (beats/min)	Normal value of electrical systole, Q-T (in sec)																			
		0,15	0,16	0,17	0,18	0,19	0,20	0,21	0,22	0,23	0,24	0,25	0,26	0,27	0,28	0,29	0,30				
3,00	20																	10	10		
2,40	25																	12	12	13	
2,00	30																	15	14	15	15
1,70	35																	16	16	17	18
1,50	40																	17	17	18	19
1,34	45																	18	19	20	21
1,20	50																	19	20	21	22
1,10	55																	20	21	22	23
1,00	60																	21	22	23	24
0,90	65																	22	23	24	25
0,85	70																	22	23	24	25
0,80	75																	22	23	24	25
0,75	80																	23	24	25	26
0,70	85																	23	24	25	26
0,66	90																	23	24	25	26
0,63	95																	23	24	25	26
0,60	100																	23	24	25	26
0,56	105																	23	24	25	26
0,54	110																	23	24	25	26
0,51	115																	23	24	25	26
0,50	120																	23	24	25	26
0,48	125																	23	24	25	26
0,46	130																	23	24	25	26
0,45	135																	23	24	25	26
0,43	140																	23	24	25	26
0,41	145																	23	24	25	26
0,40	150																	23	24	25	26
0,39	155																	23	24	25	26
0,37	160																	23	24	25	26
0,36	165																	23	24	25	26
0,35	170																	23	24	25	26
0,34	175																	23	24	25	26
0,33	180																	23	24	25	26
0,32	185																	23	24	25	26

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By means of the table the value of normal electrical ventricular systole can be determined in second for a given heart rate: it is found on the top line above the normal systolic index. The calculation performed by means of Bazett's formula:

$$Q-T=K\cdot\sqrt{\overline{R}-R},$$

where K is the empirically obtained constant. The results of the author's experiments showed that its value for dogs is 0.26.

The table was calculated from data obtained from electrocardiograms of 63 healthy mongrel dogs (189 determinations).

LITERATURE CITED

1. L. I. Fogel'son, Clinical Electrocardiography [in Russian], Moscow (1957).
2. L. I. Fogel'son and I. A. Chernogorov, Med. Biol. Zh., No. 6, 3 (1927).