

TABLE: Oxygen consumption per body surface area in (ml/min)/m² by sex, age, and heart rate

Heart rate (bpm)

Age (yr) 50 60 70 80 90 100 110 120 130 140 150 160 170

Male patients

3				155	159	163	167	171	175	178	182	186	190
4			149	152	156	160	163	168	171	175	179	182	186
6		141	144	148	151	155	159	162	167	171	174	178	181
8		136	141	144	148	152	156	159	163	167	171	175	178
10	130	134	139	142	146	149	153	157	160	165	169	172	176
12	128	132	136	140	144	147	151	155	158	162	167	170	174
14	127	130	134	137	142	146	149	153	157	160	165	169	172
16	125	129	132	136	141	144	148	152	155	159	162	167	
18	124	127	131	135	139	143	147	150	154	157	161	166	
20	123	126	130	134	137	142	145	149	153	156	160	165	
25	120	124	127	131	135	139	143	147	150	154	157		
30	118	122	125	129	133	136	141	145	148	152	155		
35	116	120	124	127	131	135	139	143	147	150			
40	115	119	122	126	130	133	137	141	145	149			

Female patients

3				150	153	157	161	165	169	172	176	180	183
4			141	145	149	152	156	159	163	168	171	175	179
6		130	134	137	142	146	149	153	156	160	165	168	172
8		125	129	133	136	141	144	148	152	155	159	163	167
10	118	122	125	129	133	136	141	144	148	152	155	159	163
12	115	119	122	126	130	133	137	141	145	149	152	156	160
14	112	116	120	123	127	131	134	133	143	146	150	153	157
16	109	114	118	121	125	128	132	136	140	144	148	151	
18	107	111	116	119	123	127	130	134	137	142	146	149	
20	106	109	114	118	121	125	128	132	136	140	144	148	
25	102	106	109	114	118	121	125	128	132	136	140		
30	99	103	106	110	115	118	122	125	129	133	136		
35	97	100	104	107	111	116	119	123	127	130			
40	94	98	102	105	109	112	117	121	124	128			

From LaFarge CG, Miettinen OS: The estimation of oxygen consumption, Cardiovasc Res 4:23, 1970.

TABLE: Normal values for cardiac output and related measurements by the Fick method

Measurements	Units	±SD
O ₂ uptake	143 ml/min/m ²	14.3
Arteriovenous O ₂ difference	4.1 vol%	0.6
Cardiac index	3.5 L/min/m ²	0.7
Stroke index	46 ml/beat/m ²	8.1

From Barratt-Boyes R, Wood EH: Cardiac output and related measurements and Pressure values in the right heart and associated vessels, together with an analysis of the Hemodynamic response to the inhalation of high oxygen mixture in healthy subjects, J Lab Clin Med 51:72, 1958.

TABLE: Normal left ventriculogram ejection phase indexes

	Average	SE	Range
Sinus beat			
Ejection fraction*	0.71	0.01	0.64-0.77
Ejection fraction†	67.3	1.0	62-72
Ejection vector*	1.19	0.03	1.28-1.07
End diastolic volume (ml/m ²)	70.4	3.9	54-89

End systolic volume (ml/m ²)	20.3	0.7	17-24
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postextrasystolic potentiation beat

Ejection fraction*	0.82	0.01	0.76-0.85
Ejection fraction†	69.9	1.9	64-79
Ejection vector*	1.39	0.03	1.26-1.50
End diastolic volume (ml/m ²)	78.5	3.2	68-90
End systolic volume (ml/m ²)	14.2	0.7	11-17

From Pujadas G: Coronary angiography in the medical and surgical treatment of ischemic heart disease, New York, 1990, McGraw-Hill.

*As fraction of end-diastolic volume.

†Percentage of total stroke output is 50.