

IX. Physiological Examinations

1. Blood pressure and pulse rate

(Automatic blood pressure analyzer, BP-204RV, Colin, Inc.,)

2. Pulse Wave Velocity and Ankle-Brachial Index (from the 5th wave examination)

(Form PWV/ABI, Colin, Inc.,)

3. Electrocardiography

(Automatic EKG analyzer, Kartizer5500, NEC Corp.,)

4. Ultrasonic cardiography

(Ultrasonic tomography, EUB-655, Hitachi Medical Corp.,)

5. Intima-media thickness of carotid artery

(Ultrasonic tomography, EUB-655, Hitachi Medical Corp.,)

1. Blood pressure and pulse rate

(Automatic blood pressure analyzer, BP-204RV, Colin, Inc.,)

Systolic Blood Pressure (mmHg)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	119.9	14.5	279	122.8	15.8	289	123.1	16.8	274	125.4	18.7	284	126.8	20.3	72	123.0	16.9	1198
Female	109.2	14.4	295	113.9	17.8	277	121.2	18.7	281	125.7	19.3	277	129.9	21.0	88	118.3	19.2	1218
Total	114.4	15.4	574	118.4	17.4	566	122.1	17.8	555	125.6	19.0	561	128.5	20.7	160	120.6	18.2	2416

Diastolic Blood Pressure (mmHg)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	75.3	9.5	279	77.9	10.0	289	76.8	9.7	274	75.6	10.6	284	74.0	11.1	72	76.3	10.1	1198
Female	67.5	8.9	295	70.4	10.8	277	73.3	10.9	281	74.2	11.3	277	73.9	11.6	88	71.5	10.9	1218
Total	71.2	10.0	574	74.2	11.1	566	75.0	10.5	555	74.9	11.0	561	74.0	11.3	160	73.8	10.8	2416

Pulse Rate (/min)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	67.8	10.2	279	66.8	9.9	289	67.7	10.2	274	69.9	11.6	284	69.7	10.4	72	68.1	10.5	1198
Female	70.6	10.1	295	71.4	10.4	277	70.4	9.0	281	72.9	10.7	277	72.8	10.4	88	71.4	10.1	1218
Total	69.3	10.2	574	69.0	10.4	566	69.1	9.7	555	71.3	11.3	561	71.4	10.5	160	69.8	10.5	2416

2. Pulse Wave Velocity and Ankle-Brachial Index (from the 5th wave examination)

(Form PWV/ABI, Colin, Inc.,)

rt Pulse Wave Velocity (cm/sec)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1314.8	163.6	276	1460.6	225.3	286	1656.3	310.1	268	1895.5	384.8	271	2071.2	414.8	57	1603.0	374.5	1158
Female	1156.7	148.4	293	1365.3	230.0	275	1571.0	323.9	273	1914.1	368.1	265	2016.2	393.5	76	1526.0	414.2	1182
Total	1233.4	174.8	569	1413.9	232.3	561	1613.3	319.7	541	1904.7	376.4	536	2039.8	402.1	133	1564.1	396.9	2340

lt Pulse Wave Velocity (cm/sec)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1318.6	166.1	276	1462.3	225.0	286	1650.0	302.5	268	1888.6	371.0	270	2082.5	457.8	58	1602.0	371.1	1158
Female	1168.6	143.8	293	1366.8	227.4	275	1572.8	321.0	273	1905.4	367.7	265	2013.9	411.8	76	1527.6	409.3	1182
Total	1241.4	172.1	569	1415.5	230.9	561	1611.1	314.1	541	1896.9	369.1	535	2043.6	432.0	134	1564.4	392.6	2340

rt Ankle-Brachial Index

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.2	0.1	276	1.2	0.1	288	1.2	0.1	268	1.2	0.1	272	1.1	0.1	57	1.2	0.1	1161
Female	1.1	0.1	293	1.2	0.1	275	1.2	0.1	273	1.1	0.1	265	1.1	0.1	75	1.1	0.1	1181
Total	1.2	0.1	569	1.2	0.1	563	1.2	0.1	541	1.1	0.1	537	1.1	0.1	132	1.2	0.1	2342

lt Ankle-Brachial Index

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.2	0.1	276	1.2	0.1	288	1.1	0.1	268	1.1	0.1	272	1.1	0.1	58	1.1	0.1	1162
Female	1.1	0.1	293	1.1	0.1	275	1.1	0.1	273	1.1	0.1	265	1.1	0.1	76	1.1	0.1	1182
Total	1.1	0.1	569	1.1	0.1	563	1.1	0.1	541	1.1	0.1	537	1.1	0.1	134	1.1	0.1	2344

Automatic diagnosis of arterial stiffness

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
not recorded	Male	4	1.4	3	1.0	8	2.9	20	7.0	17	23.0	52	4.3
	Female	2	0.7	3	1.1	8	2.8	14	5.0	13	14.8	40	3.3
	Total	6	1.0	6	1.1	16	2.9	34	6.0	30	18.5	92	3.8
within normal limit	Male	169	60.6	147	50.9	106	38.7	90	31.7	16	21.6	528	44.0
	Female	223	75.6	161	58.1	144	51.2	98	35.3	29	33.0	655	53.7
	Total	392	68.3	308	54.4	250	45.0	188	33.5	45	27.8	1183	48.9
mildly hard	Male	68	24.4	71	24.6	67	24.5	73	25.7	19	25.7	298	24.8
	Female	48	16.3	59	21.3	59	21.0	64	23.0	16	18.2	246	20.2
	Total	116	20.2	130	23.0	126	22.7	137	24.4	35	21.6	544	22.5
hard	Male	38	13.6	68	23.5	93	33.9	101	35.6	22	29.7	322	26.8
	Female	22	7.5	54	19.5	70	24.9	102	36.7	30	34.1	278	22.8
	Total	60	10.5	122	21.6	163	29.4	203	36.1	52	32.1	600	24.8

3. Electrocardiography

(Automatic EKG analyzer, Kartizer5500, NEC Corp..)

Heart Rate (/min)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	62.3	10.4	279	61.8	9.7	289	61.6	9.9	274	64.7	11.5	284	64.8	11.2	74	62.7	10.5	1200
Female	64.1	9.1	295	65.0	10.1	277	63.5	9.4	281	66.1	10.8	278	67.6	10.2	88	64.9	9.9	1219
Total	63.2	9.8	574	63.4	10.0	566	62.6	9.7	555	65.4	11.2	562	66.3	10.7	162	63.8	10.3	2419

PR-interval (msec)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	153.1	20.0	278	163.2	23.1	288	167.0	24.1	268	166.3	25.5	275	175.0	30.6	65	163.1	24.4	1174
Female	146.3	20.4	295	154.9	21.5	276	158.9	20.7	279	159.5	22.2	273	162.0	26.5	84	155.2	22.2	1207
Total	149.6	20.5	573	159.1	22.6	564	162.9	22.8	547	162.9	24.1	548	167.7	29.0	149	159.1	23.7	2381

QRS-width (msec)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	91.2	9.9	279	92.5	11.7	289	93.8	14.2	274	94.2	16.6	284	98.6	18.3	74	93.3	13.8	1200
Female	82.2	10.7	295	84.5	10.5	277	85.2	11.6	281	86.1	14.2	278	86.6	14.0	88	84.6	12.1	1219
Total	86.6	11.2	574	88.6	11.8	566	89.4	13.6	555	90.2	16.0	562	92.1	17.1	162	88.9	13.6	2419

QT-interval (msec)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	393.8	27.9	279	399.0	29.8	289	401.6	29.6	274	401.1	33.2	284	409.6	30.1	74	399.5	30.4	1200
Female	400.8	27.9	295	399.6	29.2	277	406.9	30.1	281	403.5	34.7	278	400.7	34.2	88	402.5	30.9	1219
Total	397.4	28.1	574	399.3	29.5	566	404.3	29.9	555	402.3	33.9	562	404.8	32.6	162	401.0	30.7	2419

QTc-interval (msec)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	397.6	21.3	279	401.4	19.1	289	403.6	23.1	274	412.1	21.9	284	421.9	27.7	74	404.8	22.8	1200
Female	411.3	20.2	295	412.6	19.8	277	414.1	34.3	281	419.4	24.3	278	421.8	25.1	88	414.8	25.5	1219
Total	404.7	21.8	574	406.9	20.2	566	408.9	29.8	555	415.7	23.4	562	421.8	26.2	162	409.9	24.7	2419

S(V1)-height (mV)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	-0.959	0.439	277	-0.880	0.417	288	-0.834	0.427	270	-0.810	0.464	274	-0.794	0.496	69	-0.867	0.444	1178
Female	-0.907	0.334	294	-0.857	0.388	276	-0.808	0.374	278	-0.811	0.430	266	-0.878	0.525	86	-0.849	0.395	1200
Total	-0.932	0.389	571	-0.869	0.403	564	-0.821	0.401	548	-0.811	0.447	540	-0.841	0.512	155	-0.858	0.420	2378

R(V5)-height (mV)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.680	0.527	279	1.818	0.584	289	1.841	0.671	274	1.841	0.665	284	1.965	0.755	74	1.806	0.627	1200
Female	1.288	0.426	295	1.466	0.517	277	1.546	0.459	281	1.639	0.635	278	1.751	0.613	88	1.501	0.540	1219

Total 1. 478 0. 516 574 1. 646 0. 579 566 1. 692 0. 592 555 1. 741 0. 657 562 1. 849 0. 688 162 1. 652 0. 605 2419

QRS-axis (degree)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	52.0	29.9	277	42.7	29.7	289	38.5	32.8	274	31.9	35.5	281	30.0	40.9	74	40.6	33.5	1195
Female	59.2	24.6	293	49.9	29.9	277	37.4	29.1	280	28.6	28.8	277	26.6	32.5	88	42.7	30.9	1215
Total	55.7	27.5	570	46.2	30.0	566	38.0	31.0	554	30.2	32.3	558	28.1	36.5	162	41.7	32.2	2410

P-axis (degree)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	49.1	25.8	276	50.8	26.2	287	52.2	28.1	268	52.3	29.0	268	55.3	39.4	62	51.3	28.0	1161
Female	53.2	26.9	289	51.4	24.2	270	48.5	29.4	279	49.0	25.9	271	48.2	32.6	83	50.4	27.2	1192
Total	51.2	26.4	565	51.1	25.2	557	50.3	28.8	547	50.6	27.5	539	51.2	35.7	145	50.8	27.6	2353

T-axis (degree)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	40.4	23.6	276	39.5	28.6	287	39.5	32.4	272	44.6	33.1	279	46.3	47.1	69	41.3	31.0	1183
Female	36.7	25.2	292	38.5	28.9	273	36.5	27.6	276	35.9	33.6	277	34.9	45.4	87	36.7	30.4	1205
Total	38.5	24.5	568	39.0	28.7	560	38.0	30.1	548	40.2	33.6	556	39.9	46.4	156	39.0	30.8	2388

Minnesota Code

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Minnesota Code 1-0-0	Male	75	26.9	66	22.8	45	16.4	27	9.5	7	9.5	220	18.3
	Female	69	23.4	46	16.6	46	16.4	31	11.2	11	12.5	203	16.7
	Total	144	25.1	112	19.8	91	16.4	58	10.3	18	11.1	423	17.5
Minnesota Code 1-1-1	Male	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	1	0.1
	Female	1	0.3	0	0.0	0	0.0	1	0.4	0	0.0	2	0.2
	Total	1	0.2	0	0.0	0	0.0	2	0.4	0	0.0	3	0.1
Minnesota Code 1-1-2	Male	0	0.0	1	0.3	1	0.4	0	0.0	1	1.4	3	0.3
	Female	0	0.0	1	0.4	0	0.0	1	0.4	0	0.0	2	0.2
	Total	0	0.0	2	0.4	1	0.2	1	0.2	1	0.6	5	0.2
Minnesota Code 1-1-3	Male	0	0.0	0	0.0	1	0.4	5	1.8	1	1.4	7	0.6
	Female	0	0.0	0	0.0	2	0.7	0	0.0	0	0.0	2	0.2
	Total	0	0.0	0	0.0	3	0.5	5	0.9	1	0.6	9	0.4
Minnesota Code 1-1-4	Male	0	0.0	1	0.3	0	0.0	1	0.4	0	0.0	2	0.2
	Female	1	0.3	1	0.4	1	0.4	0	0.0	4	4.5	7	0.6
	Total	1	0.2	2	0.4	1	0.2	1	0.2	4	2.5	9	0.4
Minnesota Code 1-1-5	Male	1	0.4	0	0.0	0	0.0	1	0.4	0	0.0	2	0.2
	Female	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
	Total	2	0.3	0	0.0	0	0.0	1	0.2	0	0.0	3	0.1
Minnesota Code 1-1-6	Male	0	0.0	0	0.0	0	0.0	1	0.4	1	1.4	2	0.2
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	0	0.0	0	0.0	1	0.2	1	0.6	2	0.1
Minnesota Code 1-1-7	Male	0	0.0	0	0.0	1	0.4	0	0.0	0	0.0	1	0.1
	Female	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	1	0.1
	Total	0	0.0	0	0.0	1	0.2	1	0.2	0	0.0	2	0.1

	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Minnesota Code 8-3-1	Male	0	0.0	1	0.3	5	1.8	8	2.8	9	12.2	23	1.9
	Female	0	0.0	1	0.4	2	0.7	3	1.1	4	4.5	10	0.8
	Total	0	0.0	2	0.4	7	1.3	11	2.0	13	8.0	33	1.4
Minnesota Code 8-3-2	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Minnesota Code 8-4-1	Male	0	0.0	2	0.7	2	0.7	1	0.4	1	1.4	6	0.5
	Female	2	0.7	0	0.0	3	1.1	0	0.0	1	1.1	6	0.5
	Total	2	0.3	2	0.4	5	0.9	1	0.2	2	1.2	12	0.5
Minnesota Code 8-4-2	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Minnesota Code 8-5-2	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Minnesota Code 8-7	Male	1	0.4	1	0.3	1	0.4	1	0.4	0	0.0	4	0.3
	Female	0	0.0	2	0.7	0	0.0	2	0.7	0	0.0	4	0.3
	Total	1	0.2	3	0.5	1	0.2	3	0.5	0	0.0	8	0.3
Minnesota Code 8-8	Male	22	7.9	26	9.0	23	8.4	21	7.4	7	9.5	99	8.3
	Female	13	4.4	15	5.4	18	6.4	6	2.2	0	0.0	52	4.3
	Total	35	6.1	41	7.2	41	7.4	27	4.8	7	4.3	151	6.2
Minnesota Code 8-9	Male	10	3.6	12	4.2	17	6.2	30	10.6	8	10.8	77	6.4
	Female	11	3.7	8	2.9	15	5.3	30	10.8	18	20.5	82	6.7
	Total	21	3.7	20	3.5	32	5.8	60	10.7	26	16.0	159	6.6
Minnesota Code 9-1	Male	3	1.1	1	0.3	8	2.9	8	2.8	4	5.4	24	2.0
	Female	3	1.0	11	4.0	7	2.5	7	2.5	6	6.8	34	2.8
	Total	6	1.0	12	2.1	15	2.7	15	2.7	10	6.2	58	2.4
Minnesota Code 9-2	Male	19	6.8	21	7.3	20	7.3	13	4.6	2	2.7	75	6.3
	Female	1	0.3	7	2.5	7	2.5	5	1.8	2	2.3	22	1.8
	Total	20	3.5	28	4.9	27	4.9	18	3.2	4	2.5	97	4.0
Minnesota Code 9-3-1	Male	1	0.4	0	0.0	2	0.7	3	1.1	0	0.0	6	0.5
	Female	2	0.7	2	0.7	0	0.0	0	0.0	0	0.0	4	0.3
	Total	3	0.5	2	0.4	2	0.4	3	0.5	0	0.0	10	0.4
Minnesota Code 9-3-2	Male	0	0.0	2	0.7	1	0.4	0	0.0	0	0.0	3	0.3
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	2	0.4	1	0.2	0	0.0	0	0.0	3	0.1
Minnesota Code 9-4-1	Male	123	44.1	138	47.8	125	45.6	129	45.4	29	39.2	544	45.3
	Female	163	55.3	135	48.7	164	58.4	137	49.3	35	39.8	634	52.0
	Total	286	49.8	273	48.2	289	52.1	266	47.3	64	39.5	1178	48.7
Minnesota Code 9-4-2	Male	18	6.5	13	4.5	24	8.8	31	10.9	10	13.5	96	8.0
	Female	6	2.0	20	7.2	12	4.3	25	9.0	8	9.1	71	5.8
	Total	24	4.2	33	5.8	36	6.5	56	10.0	18	11.1	167	6.9
Minnesota Code 9-5	Male	17	6.1	19	6.6	16	5.8	9	3.2	0	0.0	61	5.1
	Female	0	0.0	2	0.7	0	0.0	1	0.4	0	0.0	3	0.2
	Total	17	3.0	21	3.7	16	2.9	10	1.8	0	0.0	64	2.6
Minnesota Code 9-8-1	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	Male	279	100.0	289	100.0	274	100.0	284	100.0	74	100.0	1200	100.0
	Female	295	100.0	277	100.0	281	100.0	278	100.0	88	100.0	1219	100.0
	Total	574	100.0	566	100.0	555	100.0	562	100.0	162	100.0	2419	100.0

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.853	0.099	278	0.866	0.100	288	0.897	0.116	272	0.919	0.151	277	0.898	0.182	74	0.884	0.125	1189
Female	0.787	0.090	294	0.848	0.105	276	0.886	0.107	280	0.908	0.110	272	0.915	0.139	87	0.860	0.116	1209
Total	0.819	0.100	572	0.857	0.103	564	0.891	0.111	552	0.913	0.132	549	0.907	0.160	161	0.872	0.121	2398

Left Ventricular End-diastolic Dimension (LVEdD) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	47.74	4.09	279	48.31	4.29	287	47.38	4.35	268	46.91	4.99	272	46.42	5.44	66	47.53	4.53	1172
Female	43.35	3.83	293	43.65	3.88	275	44.21	4.62	278	44.02	4.76	266	43.63	5.06	84	43.79	4.35	1196
Total	45.49	4.53	572	46.03	4.71	562	45.76	4.76	546	45.48	5.09	538	44.86	5.40	150	45.64	4.82	2368

Left Ventricular End-systolic Dimension (LVEsD) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	29.52	4.21	279	29.63	4.56	287	28.88	4.48	268	29.26	5.47	272	28.80	6.13	66	29.30	4.79	1172
Female	25.68	3.52	293	25.29	3.70	275	25.98	4.85	278	26.15	4.94	266	26.15	5.60	84	25.80	4.39	1196
Total	27.55	4.32	572	27.51	4.69	562	27.40	4.89	546	27.72	5.44	538	27.32	5.96	150	27.53	4.92	2368

Left Ventricular Posterior Wall Thickness at end-diastole (LVPWd) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	9.84	1.77	279	10.32	2.02	287	10.53	2.04	268	10.38	2.15	272	10.85	2.30	66	10.30	2.03	1172
Female	8.74	1.59	293	9.23	1.84	275	9.69	2.05	278	9.79	1.90	266	10.36	2.17	84	9.42	1.93	1196
Total	9.28	1.77	572	9.79	2.01	562	10.10	2.09	546	10.09	2.05	538	10.58	2.23	150	9.85	2.03	2368

Left Ventricular Posterior Wall Thickness at end-systole (LVPWs) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	17.00	2.51	279	17.69	3.06	287	18.28	2.81	268	17.94	3.01	272	18.30	3.01	66	17.75	2.90	1172
Female	15.34	2.41	293	16.44	2.64	275	17.22	2.90	278	17.31	2.73	266	17.99	3.26	84	16.65	2.84	1196
Total	16.15	2.59	572	17.08	2.93	562	17.74	2.91	546	17.63	2.89	538	18.13	3.15	150	17.20	2.92	2368

Interventricular Septum Diastolic Thickness (IVSd) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	11.31	2.01	279	12.04	2.63	287	12.34	2.70	268	12.25	2.83	272	12.74	3.08	66	12.02	2.62	1172
Female	9.58	1.66	293	10.53	2.03	275	11.42	2.53	278	11.50	2.55	266	12.53	3.02	84	10.86	2.44	1196
Total	10.43	2.03	572	11.30	2.47	562	11.87	2.65	546	11.88	2.72	538	12.62	3.04	150	11.44	2.60	2368

Interventricular Septum Systolic Thickness (IVSs) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	15.24	2.30	279	16.00	2.72	287	16.12	2.60	268	16.06	2.89	272	16.91	2.71	66	15.91	2.67	1172
Female	13.16	2.05	293	14.35	2.34	275	15.21	2.55	278	15.23	2.66	266	16.30	2.84	84	14.59	2.61	1196
Total	14.17	2.41	572	15.19	2.67	562	15.65	2.61	546	15.65	2.81	538	16.57	2.79	150	15.24	2.72	2368

Left Ventricular End-diastolic Volume (LVEDV) (ml)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	107.30	21.56	279	110.37	22.77	287	105.47	22.43	268	103.57	25.56	272	101.40	28.64	66	106.43	23.58	1172
Female	85.61	18.04	293	87.12	18.26	275	90.13	23.08	278	89.30	22.48	266	87.65	23.80	84	87.97	20.83	1196
Total	96.19	22.60	572	98.99	23.71	562	97.66	24.01	546	96.51	25.10	538	93.70	26.84	150	97.11	24.07	2368

Left Ventricular End-systolic Volume (LVEsV) (ml)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	34.76	12.14	279	35.40	13.55	287	33.13	12.69	268	34.83	16.30	272	34.05	20.65	66	34.52	14.23	1172
Female	24.63	8.56	293	23.81	8.51	275	26.00	14.79	278	26.48	12.32	266	26.92	14.56	84	25.33	11.61	1196
Total	29.57	11.61	572	29.73	12.75	562	29.50	14.24	546	30.70	15.05	538	30.05	17.80	150	29.88	13.76	2368

Stroke Volume (SV) (ml)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	72.56	13.75	279	74.98	14.37	287	72.36	14.86	268	68.74	15.27	272	67.38	13.99	66	71.93	14.71	1172
Female	60.99	12.64	293	63.33	13.05	275	64.16	13.43	278	62.83	14.39	266	60.76	15.08	84	62.66	13.54	1196
Total	66.63	14.39	572	69.28	14.92	562	68.18	14.72	546	65.82	15.12	538	63.67	14.93	150	67.25	14.87	2368

Cardiac Output (CO) (l/min)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4.50	0.94	279	4.61	1.09	287	4.46	1.14	268	4.34	1.07	272	4.27	1.10	66	4.47	1.07	1172
Female	3.91	0.90	293	4.08	0.99	275	4.03	0.95	278	4.04	0.95	266	4.05	1.22	84	4.01	0.97	1196
Total	4.20	0.97	572	4.35	1.08	562	4.24	1.07	546	4.20	1.02	538	4.15	1.17	150	4.24	1.04	2368

Ejection Fraction (EF) (%)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	67.98	7.00	279	68.41	7.73	287	69.02	7.74	268	67.37	9.22	272	68.10	9.38	66	68.19	8.05	1172
Female	71.55	6.17	293	73.04	6.46	275	72.18	7.67	278	71.04	8.90	266	70.49	10.14	84	71.85	7.61	1196
Total	69.81	6.82	572	70.67	7.50	562	70.63	7.86	546	69.18	9.24	538	69.43	9.85	150	70.04	8.04	2368

Fractional Shortening (FS) (%)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	38.34	5.63	279	38.81	6.22	287	39.20	6.06	268	37.98	7.09	272	38.39	6.85	66	38.57	6.30	1172
Female	40.94	5.51	293	42.20	5.64	275	41.57	6.18	278	40.88	7.07	266	40.42	8.24	84	41.33	6.30	1196
Total	39.67	5.71	572	40.47	6.17	562	40.40	6.23	546	39.42	7.22	538	39.53	7.70	150	39.96	6.45	2368

Heart Rate (HR) (/min)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	62.6	10.2	279	61.8	9.1	288	61.9	9.9	270	64.0	11.6	280	64.3	12.5	73	62.7	10.4	1190

Female	64.3	9.2	295	64.6	10.2	277	63.3	9.6	281	65.0	10.2	275	67.1	10.8	87	64.5	9.9	1215
Total	63.5	9.7	574	63.2	9.8	565	62.6	9.8	551	64.5	10.9	555	65.8	11.7	160	63.6	10.2	2405

5. Intima-media thickness of common carotid artery

(Ultrasonic tomography, EUB-655, Hitachi Medical Corp.)

Intima-media Thickness of Left Common Carotid Artery (the Thickest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.74	0.30	279	0.89	0.32	289	0.95	0.34	274	1.07	0.42	283	1.12	0.48	74	0.92	0.38	1199
Female	0.67	0.13	295	0.79	0.20	275	0.91	0.24	280	1.01	0.34	278	1.07	0.38	88	0.86	0.29	1216
Total	0.70	0.23	574	0.84	0.27	564	0.93	0.30	554	1.04	0.38	561	1.09	0.43	162	0.89	0.34	2415

Intima-media Thickness of Left Common Carotid Artery (the Thinnest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.53	0.12	279	0.62	0.17	289	0.64	0.15	274	0.70	0.20	283	0.71	0.17	74	0.63	0.17	1199
Female	0.51	0.12	295	0.59	0.14	275	0.64	0.16	280	0.69	0.17	278	0.70	0.16	88	0.61	0.16	1216
Total	0.52	0.12	574	0.60	0.16	564	0.64	0.15	554	0.69	0.18	561	0.70	0.17	162	0.62	0.17	2415

Intima-media Thickness of Left Carotid Sinus (the Thickest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.95	0.29	279	1.14	0.43	289	1.27	0.56	274	1.49	0.59	284	1.66	0.86	74	1.24	0.56	1200
Female	0.86	0.22	294	1.03	0.35	277	1.21	0.41	281	1.43	0.58	278	1.57	0.56	88	1.16	0.48	1218
Total	0.90	0.26	573	1.09	0.39	566	1.24	0.49	555	1.46	0.58	562	1.61	0.71	162	1.20	0.52	2418

Intima-media Thickness of Left Carotid Sinus (the Thinnest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.64	0.17	279	0.72	0.21	289	0.76	0.24	274	0.81	0.26	283	0.81	0.24	74	0.74	0.23	1199
Female	0.61	0.17	294	0.69	0.21	277	0.75	0.20	281	0.80	0.23	278	0.81	0.27	88	0.72	0.22	1218
Total	0.62	0.17	573	0.70	0.21	566	0.75	0.22	555	0.81	0.25	561	0.81	0.25	162	0.73	0.23	2417

Intima-media Thickness of Right Common Carotid Artery (the Thickest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.68	0.17	279	0.77	0.18	289	0.87	0.27	274	0.99	0.33	283	1.01	0.31	74	0.84	0.28	1199
Female	0.63	0.12	295	0.73	0.17	277	0.82	0.20	280	0.94	0.24	278	1.00	0.23	88	0.79	0.23	1218
Total	0.65	0.15	574	0.75	0.18	566	0.84	0.24	554	0.97	0.29	561	1.01	0.27	162	0.82	0.25	2417

Intima-media Thickness of Right Common Carotid Artery (the Thinnest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.51	0.12	279	0.57	0.14	289	0.60	0.15	274	0.65	0.15	282	0.69	0.19	74	0.59	0.15	1198
Female	0.48	0.11	295	0.54	0.13	277	0.58	0.12	280	0.65	0.15	278	0.70	0.15	88	0.57	0.15	1218
Total	0.49	0.12	574	0.55	0.13	566	0.59	0.14	554	0.65	0.15	560	0.70	0.17	162	0.58	0.15	2416

Intima-media Thickness of Right Carotid Sinus (the Thickest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.96	0.27	279	1.11	0.38	289	1.29	0.52	274	1.50	0.70	283	1.51	0.71	74	1.23	0.55	1199
Female	0.88	0.27	294	1.00	0.28	277	1.14	0.37	281	1.36	0.58	278	1.53	0.73	88	1.12	0.47	1218
Total	0.92	0.28	573	1.06	0.34	566	1.21	0.46	555	1.43	0.65	561	1.52	0.72	162	1.18	0.52	2417

Intima-media Thickness of Right Carotid Sinus (the Thinnest Point) (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.64	0.19	279	0.72	0.19	289	0.74	0.22	274	0.80	0.26	283	0.77	0.22	74	0.73	0.23	1199
Female	0.61	0.17	294	0.67	0.19	277	0.72	0.20	281	0.78	0.24	278	0.82	0.36	88	0.70	0.23	1218
Total	0.63	0.18	573	0.70	0.19	566	0.73	0.21	555	0.79	0.25	561	0.80	0.31	162	0.72	0.23	2417