

IX. Physiological Examinations

1) Cardiovascular system

- 1. Blood pressure and pulse rate
- 2. Digital plethysmogram
- 3. Electrocardiography
- 4. Ultrasonic cardiography
- 5. Intima-madia thickness of carotid artery

2) Respiratory system

- 1. Pulmonary functions
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3) Skin sensory system

- 1.Current perception thresholds of peripheral nerves
- 2.Skin two-point discrimination test

1) Cardiovascular system

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			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	120.2	16.1	291	124.1	17.9	282	125.1	18.5	281	125.9	20.8	283	123.8	18.5	1137
Female	115.4	17.8	282	121.4	20.5	278	126.5	19.8	283	131.0	19.8	280	123.6	20.3	1123
Total	117.8	17.1	573	122.7	19.3	560	125.8	19.2	564	128.5	20.4	563	123.7	19.4	2260

Diastolic Blood Pressure (mmHg)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	75.5	10.4	291	77.9	10.4	282	77.3	11.1	281	75.3	11.7	283	76.5	11.0	1137

Female	70.7	10.7	282	74.3	11.7	278	76.2	11.3	283	76.1	11.5	280	74.3	11.5	1123
Total	73.2	10.8	573	76.1	11.2	560	76.8	11.2	564	75.7	11.6	563	75.4	11.3	2260

Pulse Rate(/min)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	69.2	10.1	291	69.0	11.5	282	71.1	10.9	281	72.6	11.6	283	70.5	11.1	1137
Female	73.5	11.0	282	73.2	10.4	278	74.4	10.3	283	76.7	10.9	280	74.5	10.7	1123
Total	71.3	10.8	573	71.1	11.2	560	72.8	10.7	564	74.6	11.4	563	72.4	11.1	2260

2. Digital plethysmogram

(Digital plethysmography, Omniace RT3300, NEC Corp.,)

SX (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.5	0.9	291	6.7	0.9	282	6.7	1.0	281	6.6	1.0	281	6.6	1.0	1135
Female	6.5	0.8	281	6.6	0.9	279	6.6	1.0	285	6.5	0.8	281	6.5	0.9	1126
Total	6.5	0.9	572	6.6	0.9	561	6.6	1.0	566	6.6	1.0	562	6.6	0.9	2261

SS (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	24.2	3.7	291	24.2	3.7	282	23.8	3.7	281	23.4	4.1	281	23.9	3.8	1135
Female	23.0	3.4	281	23.5	3.2	279	22.9	3.5	285	22.2	3.7	281	22.9	3.5	1126
Total	23.6	3.6	572	23.9	3.5	561	23.4	3.6	566	22.8	3.9	562	23.4	3.7	2261

Corrected up-stroke time (sec)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.265	0.027	291	0.271	0.025	282	0.273	0.031	281	0.275	0.030	281	0.271	0.029	1135
Female	0.270	0.026	281	0.274	0.028	279	0.277	0.028	285	0.275	0.027	281	0.274	0.027	1126
Total	0.268	0.027	572	0.273	0.027	561	0.275	0.030	566	0.275	0.029	562	0.273	0.028	2261

3. Electrocardiography

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

Heart Rate (/min)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	64.4	9.8	291	63.4	10.3	282	65.7	11.5	283	67.4	12.2	282	65.2	11.1	1138
Female	67.4	10.2	282	66.1	10.0	279	67.7	11.2	285	69.6	11.0	282	67.7	10.7	1128
Total	65.9	10.1	573	64.7	10.3	561	66.7	11.4	568	68.5	11.7	564	66.4	10.9	2266

PR-interval (msec)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	156.2	23.3	290	160.1	21.6	280	160.6	20.0	280	163.9	22.8	271	160.1	22.1	1121
Female	148.8	19.8	282	154.5	19.5	278	155.8	20.5	284	158.0	24.0	281	154.3	21.3	1125
Total	152.6	21.9	572	157.3	20.8	558	158.1	20.4	564	160.9	23.6	552	157.2	21.9	2246

QRS-width (msec)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	91.0	10.9	291	91.9	12.0	282	91.8	13.8	283	93.1	15.7	282	91.9	13.2	1138
Female	82.6	9.2	282	84.2	10.9	279	85.2	10.9	285	86.0	12.8	282	84.5	11.1	1128
Total	86.9	10.9	573	88.1	12.0	561	88.5	12.9	568	89.6	14.8	564	88.2	12.8	2266

QT-interval (msec)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	392.3	28.3	291	397.6	29.4	282	397.1	29.7	283	396.9	32.8	282	395.9	30.1	1138
Female	393.6	28.5	282	400.0	26.6	279	401.3	29.9	285	398.8	31.4	282	398.4	29.3	1128
Total	392.9	28.4	573	398.8	28.1	561	399.2	29.9	568	397.8	32.1	564	397.2	29.7	2266

QTc-interval (msec)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	403.1	20.4	291	405.1	20.6	282	411.4	22.0	283	416.3	25.1	282	408.9	22.7	1138
Female	413.5	18.6	282	416.6	21.7	279	422.4	22.3	285	425.8	22.0	282	419.6	21.7	1128
Total	408.2	20.2	573	410.8	21.9	561	416.9	22.8	568	421.0	24.1	564	414.2	22.8	2266

S (V1) –height (mV)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	–0. 911	0. 409	290	–0. 877	0. 427	278	–0. 835	0. 525	279	–0. 847	0. 489	269	–0. 868	0. 465	1116
Female	–0. 894	0. 374	282	–0. 810	0. 382	277	–0. 791	0. 454	279	–0. 782	0. 480	273	–0. 819	0. 427	1111
Total	–0. 903	0. 392	572	–0. 843	0. 406	555	–0. 813	0. 491	558	–0. 814	0. 485	542	–0. 844	0. 447	2227

R (V5)–height (mV)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1. 601	0. 509	291	1. 702	0. 653	282	1. 721	0. 682	283	1. 706	0. 761	282	1. 682	0. 658	1138
Female	1. 299	0. 405	282	1. 429	0. 443	278	1. 524	0. 514	285	1. 636	0. 623	282	1. 472	0. 518	1127
Total	1. 452	0. 484	573	1. 567	0. 575	560	1. 622	0. 611	568	1. 671	0. 696	564	1. 578	0. 601	2265

QRS–axis (degree)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	49. 5	29. 1	291	42. 2	32. 1	282	39. 8	32. 4	283	37. 5	37. 1	281	42. 3	33. 0	1137
Female	51. 6	29. 0	282	46. 0	27. 3	275	34. 9	28. 3	284	30. 8	31. 3	282	40. 8	30. 1	1123
Total	50. 5	29. 0	573	44. 1	29. 9	557	37. 4	30. 5	567	34. 2	34. 4	563	41. 5	31. 6	2260

P–axis (degree)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	50. 5	29. 4	286	51. 0	25. 2	276	53. 4	25. 8	277	55. 1	28. 9	265	52. 5	27. 4	1104
Female	51. 2	23. 7	280	50. 9	23. 9	273	49. 0	25. 5	282	50. 7	29. 5	279	50. 4	25. 8	1114
Total	50. 8	26. 7	566	50. 9	24. 5	549	51. 2	25. 8	559	52. 8	29. 3	544	51. 4	26. 6	2218

T–axis (degree)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	40. 5	26. 2	291	39. 6	24. 1	280	43. 6	29. 8	277	46. 2	35. 6	273	42. 4	29. 2	1121
Female	35. 6	20. 9	276	35. 4	30. 6	273	33. 8	28. 1	279	37. 0	32. 2	271	35. 4	28. 2	1099
Total	38. 1	23. 8	567	37. 5	27. 6	553	38. 7	29. 3	556	41. 6	34. 2	544	39. 0	28. 9	2220

Minnesota Code

		40 – 49yr		50 – 59yr		60 – 69yr		70 – 79yr		Total	
		N	%	N	%	N	%	N	%	N	%
Minnesota Code 1–0–0	Male	63	21. 6	47	16. 7	51	18. 0	39	13. 8	200	17. 6

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	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 1-2-8	Male	1	0.3	0	0	1	0.4	1	0.4	3	0.3
	Female	0	0	1	0.4	0	0	0	0	1	0.1
	Total	1	0.2	1	0.2	1	0.2	1	0.2	4	0.2
Minnesota Code 1-3-1	Male	0	0	0	0	0	0	2	0.7	2	0.2
	Female	1	0.4	0	0	1	0.4	1	0.4	3	0.3
	Total	1	0.2	0	0	1	0.2	3	0.5	5	0.2
Minnesota Code 1-3-2	Male	2	0.7	1	0.4	1	0.4	4	1.4	8	0.7
	Female	2	0.7	1	0.4	1	0.4	4	1.4	8	0.7
	Total	4	0.7	2	0.4	2	0.4	8	1.4	16	0.7
Minnesota Code 1-3-3	Male	1	0.3	0	0	3	1.1	3	1.1	7	0.6
	Female	0	0	1	0.4	0	0	3	1.1	4	0.4
	Total	1	0.2	1	0.2	3	0.5	6	1.1	11	0.5
Minnesota Code 1-3-4	Male	3	1.0	5	1.8	3	1.1	1	0.4	12	1.1
	Female	1	0.4	6	2.2	2	0.7	2	0.7	11	1.0
	Total	4	0.7	11	2.0	5	0.9	3	0.5	23	1.0
Minnesota Code 1-3-5	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	1	0.4	1	0.4	2	0.2
	Total	0	0	0	0	1	0.2	1	0.2	2	0.1
Minnesota Code 1-3-6	Male	3	1.0	4	1.4	6	2.1	7	2.5	20	1.8
	Female	4	1.4	5	1.8	6	2.1	13	4.6	28	2.5
	Total	7	1.2	9	1.6	12	2.1	20	3.5	48	2.1
Minnesota Code 2-1	Male	3	1.0	6	2.1	7	2.5	4	1.4	20	1.8
	Female	1	0.4	1	0.4	6	2.1	5	1.8	13	1.2
	Total	4	0.7	7	1.3	13	2.3	9	1.6	33	1.5
Minnesota Code 2-2	Male	0	0	0	0	0	0	2	0.7	2	0.2
	Female	1	0.4	0	0	0	0	2	0.7	3	0.3
	Total	1	0.2	0	0	0	0	4	0.7	5	0.2
Minnesota Code 2-3	Male	5	1.7	6	2.1	1	0.4	5	1.8	17	1.5
	Female	8	2.8	4	1.4	2	0.7	1	0.4	15	1.3
	Total	13	2.3	10	1.8	3	0.5	6	1.1	32	1.4
Minnesota Code 2-4	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 2-5	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	1	0.4	1	0.4	0	0	2	0.2
	Total	0	0	1	0.2	1	0.2	0	0	2	0.1
Minnesota Code 3-1	Male	15	5.2	24	8.5	26	9.2	30	10.6	95	8.3
	Female	3	1.1	7	2.5	10	3.5	18	6.4	38	3.4
	Total	18	3.1	31	5.5	36	6.3	48	8.5	133	5.9
Minnesota Code 3-2	Male	0	0	1	0.4	0	0	1	0.4	2	0.2
	Female	0	0	0	0	1	0.4	2	0.7	3	0.3
	Total	0	0	1	0.2	1	0.2	3	0.5	5	0.2

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	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 6-2-3	Male	1	0.3	0	0	0	0	0	0	1	0.1
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.2	0	0	0	0	0	0	1	0.0
Minnesota Code 6-3	Male	1	0.3	3	1.1	2	0.7	5	1.8	11	1.0
	Female	1	0.4	0	0	1	0.4	4	1.4	6	0.5
	Total	2	0.3	3	0.5	3	0.5	9	1.6	17	0.8
Minnesota Code 6-4-1	Male	1	0.3	1	0.4	0	0	1	0.4	3	0.3
	Female	1	0.4	0	0	2	0.7	0	0	3	0.3
	Total	2	0.3	1	0.2	2	0.4	1	0.2	6	0.3
Minnesota Code 6-5	Male	9	3.1	1	0.4	0	0	3	1.1	13	1.1
	Female	17	6.0	9	3.2	5	1.8	11	3.9	42	3.7
	Total	26	4.5	10	1.8	5	0.9	14	2.5	55	2.4
Minnesota Code 6-8	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 7-1-1	Male	2	0.7	1	0.4	1	0.4	0	0	4	0.4
	Female	0	0	1	0.4	1	0.4	2	0.7	4	0.4
	Total	2	0.3	2	0.4	2	0.4	2	0.4	8	0.4
Minnesota Code 7-2-1	Male	3	1.0	4	1.4	10	3.5	19	6.7	36	3.2
	Female	1	0.4	4	1.4	4	1.4	9	3.2	18	1.6
	Total	4	0.7	8	1.4	14	2.5	28	5.0	54	2.4
Minnesota Code 7-3	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 7-4	Male	1	0.3	1	0.4	0	0	0	0	2	0.2
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.2	1	0.2	0	0	0	0	2	0.1
Minnesota Code 7-5	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 7-6	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 7-7	Male	0	0	1	0.4	0	0	0	0	1	0.1
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	1	0.2	0	0	0	0	1	0.0
Minnesota Code 7-8	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 8-1-1	Male	1	0.3	0	0	1	0.4	1	0.4	3	0.3
	Female	0	0	0	0	0	0	2	0.7	2	0.2

	Total	1	0.2	0	0	1	0.2	3	0.5	5	0.2
Minnesota Code 8-1-2	Male	1	0.3	0	0	3	1.1	7	2.5	11	1.0
	Female	0	0	1	0.4	2	0.7	3	1.1	6	0.5
	Total	1	0.2	1	0.2	5	0.9	10	1.8	17	0.8
Minnesota Code 8-1-3	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 8-2-2	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 8-2-3	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 8-3-1	Male	0	0	0	0	3	1.1	10	3.5	13	1.1
	Female	0	0	1	0.4	1	0.4	1	0.4	3	0.3
	Total	0	0	1	0.2	4	0.7	11	2.0	16	0.7
Minnesota Code 8-3-2	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 8-4-1	Male	2	0.7	1	0.4	1	0.4	0	0	4	0.4
	Female	2	0.7	1	0.4	3	1.1	3	1.1	9	0.8
	Total	4	0.7	2	0.4	4	0.7	3	0.5	13	0.6
Minnesota Code 8-4-2	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0
	Total	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
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0
Minnesota Code 8-7	Male	0	0	0	0	2	0.7	1	0.4	3	0.3
	Female	1	0.4	1	0.4	3	1.1	4	1.4	9	0.8
	Total	1	0.2	1	0.2	5	0.9	5	0.9	12	0.5
Minnesota Code 8-8	Male	13	4.5	15	5.3	15	5.3	13	4.6	56	4.9
	Female	6	2.1	9	3.2	6	2.1	6	2.1	27	2.4
	Total	19	3.3	24	4.3	21	3.7	19	3.4	83	3.7
Minnesota Code 8-9	Male	11	3.8	18	6.4	22	7.8	31	11.0	82	7.2
	Female	14	5.0	5	1.8	22	7.7	26	9.3	67	6.0
	Total	25	4.4	23	4.1	44	7.7	57	10.1	149	6.6
Minnesota Code 9-1	Male	1	0.3	5	1.8	9	3.2	23	8.1	38	3.3
	Female	8	2.8	4	1.4	5	1.8	14	5.0	31	2.8
	Total	9	1.6	9	1.6	14	2.5	37	6.6	69	3.0
Minnesota Code 9-2	Male	31	10.7	16	5.7	17	6.0	14	4.9	78	6.8
	Female	1	0.4	7	2.5	4	1.4	9	3.2	21	1.9
	Total	32	5.6	23	4.1	21	3.7	23	4.1	99	4.4

Minnesota Code 9-3-1	Male	0	0	0	0	3	1.1	3	1.1	6	0.5
	Female	0	0	1	0.4	1	0.4	2	0.7	4	0.4
	Total	0	0	1	0.2	4	0.7	5	0.9	10	0.4
Minnesota Code 9-3-2	Male	0	0	2	0.7	0	0	1	0.4	3	0.3
	Female	0	0	1	0.4	1	0.4	2	0.7	4	0.4
	Total	0	0	3	0.5	1	0.2	3	0.5	7	0.3
Minnesota Code 9-4-1	Male	155	53.3	157	55.7	140	49.5	133	47.0	585	51.4
	Female	175	62.3	159	57.2	180	63.2	164	58.4	678	60.3
	Total	330	57.7	316	56.4	320	56.3	297	52.7	1263	55.8
Minnesota Code 9-4-2	Male	12	4.1	14	5.0	17	6.0	27	9.5	70	6.1
	Female	2	0.7	13	4.7	10	3.5	20	7.1	45	4.0
	Total	14	2.4	27	4.8	27	4.8	47	8.3	115	5.1
Minnesota Code 9-5	Male	26	8.9	25	8.9	18	6.4	16	5.7	85	7.5
	Female	1	0.4	0	0	2	0.7	1	0.4	4	0.4
	Total	27	4.7	25	4.5	20	3.5	17	3.0	89	3.9
Minnesota Code 9-8-1	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	1	0.4	1	0.4	0	0	2	0.2
	Total	0	0	1	0.2	1	0.2	0	0	2	0.1
Total	Male	291	100.0	282	100.0	283	100.0	283	100.0	1139	100.0
	Female	281	100.0	278	100.0	285	100.0	281	100.0	1125	100.0
	Total	572	100.0	560	100.0	568	100.0	564	100.0	2264	100.0

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

Aortic Dimension (AOD) (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	27.86	3.36	274	28.73	3.64	266	28.52	3.34	252	28.93	4.04	263	28.50	3.63	1055
Female	24.49	3.13	257	25.17	3.19	260	25.61	3.34	255	25.98	3.50	255	25.31	3.33	1027
Total	26.23	3.66	531	26.97	3.86	526	27.06	3.64	507	27.48	4.06	518	26.93	3.83	2082

Left Atrium Dimension (LAD) (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	32.65	4.00	273	33.67	4.46	266	33.12	4.54	250	34.00	6.37	263	33.36	4.94	1052
Female	30.11	4.38	257	31.30	4.41	260	32.30	4.97	254	33.90	5.52	254	31.89	5.03	1025
Total	31.42	4.38	530	32.50	4.59	526	32.71	4.77	504	33.95	5.96	517	32.63	5.04	2077

LAD/AOD Ratio

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.18	0.16	273	1.18	0.16	266	1.17	0.16	250	1.18	0.24	263	1.18	0.18	1052
Female	1.23	0.19	257	1.25	0.17	260	1.27	0.19	254	1.32	0.25	254	1.27	0.20	1025
Total	1.21	0.18	530	1.21	0.17	526	1.22	0.18	504	1.25	0.25	517	1.22	0.20	2077

E-wave Amplitude (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	20.61	3.92	275	19.68	3.81	267	18.19	3.93	251	17.50	3.58	257	19.03	4.00	1050
Female	19.20	3.49	263	18.06	3.72	260	17.44	3.72	256	16.26	3.85	245	17.77	3.84	1024
Total	19.92	3.78	538	18.88	3.85	527	17.81	3.84	507	16.89	3.77	502	18.41	3.97	2074

A-wave Amplitude (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	16.25	3.97	275	16.38	3.45	267	15.57	4.18	251	15.46	3.61	256	15.92	3.83	1049
Female	14.33	3.89	262	14.15	3.86	260	14.62	3.64	256	14.34	3.70	245	14.36	3.77	1023
Total	15.31	4.04	537	15.28	3.82	527	15.09	3.94	507	14.91	3.69	501	15.15	3.88	2072

Diastolic Descent Rate (DDR) (mm/s)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	89.0	24.8	275	78.8	25.1	267	67.6	23.4	251	58.2	22.9	257	73.7	26.7	1050
Female	83.8	21.2	263	72.2	22.1	260	63.9	23.3	256	51.9	20.1	245	68.3	24.6	1024
Total	86.5	23.2	538	75.6	23.9	527	65.7	23.4	507	55.1	21.8	502	71.0	25.8	2074

A/E Ratio

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.784	0.128	275	0.832	0.114	267	0.849	0.153	251	0.887	0.147	257	0.837	0.141	1050
Female	0.734	0.137	263	0.772	0.134	260	0.835	0.137	256	0.883	0.147	245	0.804	0.150	1024
Total	0.759	0.135	538	0.802	0.128	527	0.842	0.145	507	0.885	0.147	502	0.821	0.146	2074

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
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	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	48.76	4.31	271	48.38	4.74	256	48.06	4.75	234	47.47	6.14	221	48.21	5.00	982
Female	44.79	4.30	259	44.63	4.25	257	45.69	5.00	238	45.47	5.86	212	45.12	4.85	966
Total	46.82	4.74	530	46.50	4.88	513	46.87	5.01	472	46.49	6.08	433	46.67	5.16	1948

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	31.36	4.10	271	31.02	5.15	256	30.70	4.80	234	30.32	6.09	220	30.88	5.04	981
Female	28.09	3.95	259	27.53	4.34	257	28.32	5.56	238	28.39	6.03	212	28.07	4.98	966
Total	29.76	4.35	530	29.27	5.07	513	29.50	5.32	472	29.38	6.13	432	29.48	5.21	1947

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	10.28	2.01	271	10.60	2.08	255	10.73	2.15	233	10.85	2.11	221	10.60	2.09	980
Female	9.36	1.93	259	9.88	2.24	257	9.77	2.09	237	9.91	2.53	211	9.72	2.20	964
Total	9.83	2.02	530	10.24	2.19	512	10.25	2.17	470	10.39	2.37	432	10.16	2.19	1944

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	16.31	2.46	271	17.00	2.80	256	17.06	3.06	232	17.10	2.93	220	16.85	2.82	979
Female	15.24	2.55	259	15.86	3.02	257	16.08	3.10	238	15.98	3.67	211	15.78	3.09	965
Total	15.79	2.56	530	16.43	2.96	513	16.57	3.12	470	16.55	3.35	431	16.32	3.01	1944

Interventricular Septum Diastolic Thickness (IVSd) (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	10.47	2.11	271	11.00	2.30	256	11.03	2.47	234	11.58	3.04	221	10.99	2.51	982
Female	9.27	1.94	259	9.86	2.30	257	10.21	2.36	238	10.98	2.41	212	10.04	2.33	966
Total	9.88	2.11	530	10.43	2.37	513	10.62	2.45	472	11.29	2.76	433	10.52	2.47	1948

Interventricular Septum Systolic Thickness (IVSs) (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	13.52	2.78	270	14.05	2.87	256	14.22	3.28	234	14.25	3.36	220	13.99	3.07	980
Female	11.78	2.31	259	12.42	2.56	257	13.13	2.83	238	13.99	2.82	212	12.77	2.74	966

Total	12.67	2.70	529	13.23	2.84	513	13.67	3.11	472	14.12	3.11	432	13.38	2.98	1946
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Left Ventricular End-diastolic Volume (LVEdV) (ml)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	112.38	23.00	271	110.65	25.80	256	109.02	24.82	234	107.00	33.91	221	109.92	26.96	982
Female	92.49	20.67	259	91.60	20.52	257	97.27	25.03	238	96.78	29.90	212	94.37	24.12	966
Total	102.66	24.03	530	101.11	25.16	513	103.10	25.59	472	101.99	32.38	433	102.21	26.74	1948

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	40.07	12.64	271	39.64	17.74	256	38.45	14.95	234	38.37	20.41	220	39.19	16.51	981
Female	30.73	10.81	259	29.48	11.58	257	32.29	16.07	238	33.04	18.61	212	31.29	14.42	966
Total	35.51	12.67	530	34.55	15.80	513	35.35	15.81	472	35.75	19.70	432	35.27	16.00	1947

Stroke Volume (SV) (ml)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	72.64	15.97	271	71.23	15.51	256	70.84	15.70	234	68.68	19.50	220	70.96	16.69	981
Female	61.88	14.42	259	62.24	14.24	257	65.13	15.75	238	63.88	17.66	213	63.21	15.50	967
Total	67.38	16.14	530	66.73	15.54	513	67.96	15.96	472	66.32	18.75	433	67.11	16.56	1948

Cardiac Output (CO) (l/min)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4.55	1.09	269	4.38	1.08	254	4.44	1.13	232	4.36	1.42	220	4.44	1.18	975
Female	4.01	1.01	258	3.98	1.08	255	4.17	1.01	234	4.22	1.28	210	4.09	1.10	957
Total	4.29	1.08	527	4.18	1.10	509	4.31	1.08	466	4.29	1.35	430	4.26	1.15	1932

Ejection Fraction (EF) (%)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	64.61	7.30	271	64.98	8.87	256	65.32	8.17	234	65.16	9.72	220	65.00	8.50	981
Female	67.05	7.35	259	68.32	8.52	257	67.66	10.24	238	67.08	10.26	213	67.54	9.10	967
Total	65.80	7.42	530	66.65	8.84	513	66.50	9.34	472	66.10	10.02	433	66.26	8.89	1948

Fractional Shortening (FS) (%)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	35.64	5.61	271	36.00	6.60	256	36.24	6.14	234	36.23	7.32	220	36.01	6.40	981
Female	37.31	5.73	259	38.39	6.63	257	38.25	7.88	238	37.67	7.88	213	37.91	7.03	967
Total	36.45	5.72	530	37.20	6.72	513	37.25	7.13	472	36.94	7.62	433	36.95	6.79	1948

Heart Rate (HR) (/min)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	63.3	9.8	264	62.4	10.0	245	63.4	10.4	237	64.1	10.7	229	63.3	10.2	975
Female	65.8	10.2	262	64.2	9.3	254	65.4	10.0	246	66.6	10.4	230	65.5	10.0	992
Total	64.5	10.1	526	63.3	9.6	499	64.5	10.3	483	65.4	10.6	459	64.4	10.2	1967

5. Intima-madia thickness of 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			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.70	0.37	274	0.78	0.30	267	0.88	0.34	255	1.02	0.48	266	0.84	0.40	1062
Female	0.63	0.18	266	0.74	0.21	264	0.84	0.29	260	0.92	0.26	257	0.78	0.26	1047
Total	0.67	0.29	540	0.76	0.26	531	0.86	0.32	515	0.97	0.39	523	0.81	0.34	2109

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.54	0.11	274	0.60	0.15	267	0.66	0.17	255	0.74	0.19	266	0.63	0.17	1062
Female	0.52	0.13	266	0.59	0.13	264	0.66	0.17	259	0.72	0.17	257	0.62	0.17	1046
Total	0.53	0.12	540	0.59	0.14	531	0.66	0.17	514	0.73	0.18	523	0.63	0.17	2108

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.92	0.38	260	1.05	0.41	252	1.23	0.61	247	1.44	0.69	260	1.16	0.57	1019
Female	0.83	0.24	256	0.93	0.29	252	1.09	0.42	250	1.30	0.62	254	1.04	0.45	1012
Total	0.87	0.32	516	0.99	0.36	504	1.16	0.52	497	1.37	0.66	514	1.10	0.52	2031

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.65	0.17	260	0.72	0.18	252	0.78	0.25	247	0.87	0.29	260	0.76	0.24	1019
Female	0.61	0.17	256	0.67	0.21	252	0.74	0.19	249	0.87	0.30	254	0.72	0.24	1011
Total	0.63	0.17	516	0.69	0.20	504	0.76	0.23	496	0.87	0.29	514	0.74	0.24	2030

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.64	0.30	272	0.71	0.20	265	0.84	0.51	254	0.92	0.36	265	0.78	0.37	1056
Female	0.58	0.12	265	0.67	0.16	263	0.75	0.20	263	0.91	0.28	258	0.73	0.23	1049
Total	0.61	0.23	537	0.69	0.18	528	0.79	0.39	517	0.92	0.32	523	0.75	0.31	2105

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.51	0.10	272	0.57	0.13	265	0.63	0.15	254	0.70	0.19	265	0.60	0.16	1056
Female	0.49	0.10	265	0.55	0.11	263	0.59	0.13	263	0.70	0.15	257	0.58	0.14	1048
Total	0.50	0.10	537	0.56	0.12	528	0.61	0.14	517	0.70	0.17	522	0.59	0.15	2104

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.93	0.54	269	1.05	0.42	257	1.24	0.69	249	1.42	0.78	265	1.16	0.65	1040
Female	0.83	0.22	260	0.96	0.31	257	1.09	0.48	256	1.24	0.54	256	1.03	0.43	1029
Total	0.88	0.42	529	1.00	0.37	514	1.17	0.60	505	1.33	0.68	521	1.09	0.56	2069

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

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.65	0.18	268	0.68	0.19	256	0.77	0.31	249	0.86	0.33	265	0.74	0.27	1038
Female	0.59	0.15	260	0.68	0.18	256	0.74	0.26	255	0.81	0.25	255	0.70	0.23	1026
Total	0.62	0.17	528	0.68	0.18	512	0.75	0.29	504	0.84	0.29	520	0.72	0.25	2064

1. Pulmonary functions

(Electropirometer, Chestgraph HI701, Chest, Inc.,)

Vital Capacity (VC) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4.259	0.628	291	3.896	0.588	281	3.476	0.559	280	3.042	0.637	283	3.672	0.757	1135
Female	2.975	0.469	281	2.719	0.450	276	2.438	0.412	282	2.027	0.415	272	2.543	0.560	1111
Total	3.628	0.849	572	3.313	0.788	557	2.955	0.714	562	2.545	0.741	555	3.114	0.874	2246

Inspiratory Capacity (IC) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.725	0.603	285	2.558	0.615	274	2.219	0.603	260	1.895	0.568	256	2.362	0.677	1075
Female	1.897	0.449	276	1.815	0.459	268	1.720	0.390	262	1.417	0.409	245	1.720	0.464	1051
Total	2.318	0.675	561	2.191	0.658	542	1.968	0.565	522	1.661	0.550	501	2.045	0.664	2126

Tidal Volume (TV) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.812	0.349	285	0.707	0.306	274	0.658	0.306	260	0.636	0.292	256	0.706	0.322	1075
Female	0.535	0.241	276	0.480	0.265	268	0.499	0.226	262	0.514	0.252	245	0.507	0.247	1051
Total	0.675	0.331	561	0.594	0.308	542	0.578	0.280	522	0.577	0.279	501	0.608	0.304	2126

Expiratory Reserve Volume (ERV) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.523	0.535	285	1.324	0.482	274	1.254	0.525	260	1.135	0.470	256	1.315	0.523	1075
Female	1.065	0.368	276	0.910	0.349	268	0.716	0.303	262	0.587	0.306	245	0.827	0.380	1051
Total	1.297	0.514	561	1.119	0.470	542	0.984	0.506	522	0.867	0.483	501	1.074	0.519	2126

Inspiratory Reserve Volume (IRV) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.918	0.562	285	1.853	0.596	274	1.562	0.573	260	1.258	0.550	256	1.658	0.627	1075
Female	1.359	0.431	276	1.335	0.448	268	1.225	0.410	262	0.914	0.380	245	1.216	0.453	1051
Total	1.643	0.574	561	1.597	0.587	542	1.393	0.525	522	1.090	0.504	501	1.439	0.591	2126

Forced Vital Capacity (FVC) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.895	0.607	291	3.465	0.583	281	3.077	0.573	280	2.658	0.588	283	3.278	0.747	1135
Female	2.732	0.465	281	2.457	0.455	276	2.169	0.437	282	1.777	0.404	270	2.288	0.564	1109
Total	3.324	0.795	572	2.966	0.726	557	2.621	0.682	562	2.228	0.671	553	2.789	0.827	2244

One Second Forced Expiratory Volume (FEV1.0) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.351	0.511	291	2.935	0.497	281	2.558	0.500	280	2.136	0.531	283	2.749	0.681	1135
Female	2.413	0.412	281	2.122	0.394	276	1.862	0.368	281	1.490	0.358	270	1.976	0.511	1108
Total	2.890	0.660	572	2.532	0.606	557	2.209	0.560	561	1.821	0.558	553	2.367	0.716	2243

Percentage of One Second Forced Expiratory Volume (Gaensler) (FEV1.0%G) (%)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	86.20	6.15	291	84.99	7.16	281	83.12	7.62	280	80.60	9.93	283	83.74	8.10	1135
Female	88.31	6.80	281	86.42	7.34	276	85.97	7.40	281	84.37	10.14	270	86.28	8.12	1108
Total	87.23	6.56	572	85.70	7.28	557	84.55	7.64	561	82.44	10.20	553	85.00	8.21	2243

Percentage of One Second Forced Expiratory Volume (Tiffeneau) (FEV1.0%T) (L)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	78.87	7.00	291	75.51	7.75	281	73.63	8.45	279	70.50	10.96	283	74.66	9.17	1134
Female	81.10	6.92	281	77.92	7.70	276	76.21	7.95	281	73.78	11.33	270	77.29	9.01	1108
Total	79.97	7.04	572	76.70	7.81	557	74.92	8.30	560	72.10	11.25	553	75.96	9.18	2242

Maximal Midexpiratory Flow (MMF) (L/s)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4.007	1.029	291	3.453	1.068	281	2.866	0.987	280	2.248	0.952	283	3.150	1.205	1135
Female	3.104	0.911	281	2.700	0.888	276	2.333	0.755	282	1.861	0.795	270	2.505	0.955	1109
Total	3.564	1.072	572	3.080	1.052	557	2.598	0.917	562	2.059	0.899	553	2.831	1.135	2244

Peak Flow (PEF) (L/s)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N

Male	8.019	1.674	291	7.202	1.674	281	6.189	1.806	280	5.084	1.850	283	6.634	2.069	1135
Female	5.203	1.401	281	4.610	1.358	276	4.158	1.237	281	3.340	1.212	270	4.336	1.469	1108
Total	6.636	2.091	572	5.918	2.001	557	5.172	1.850	561	4.233	1.796	553	5.499	2.133	2243

V75 (L/s)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.491	1.759	291	6.733	1.779	281	5.723	1.870	280	4.673	1.959	283	6.165	2.127	1135
Female	4.922	1.491	281	4.363	1.409	276	3.893	1.346	282	3.116	1.249	270	4.082	1.526	1109
Total	6.229	2.077	572	5.559	1.995	557	4.805	1.867	562	3.913	1.824	553	5.135	2.126	2244

V50 (L/s)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4.714	1.257	291	4.158	1.319	281	3.603	1.302	280	2.855	1.226	283	3.839	1.450	1135
Female	3.661	1.041	281	3.288	1.074	276	2.888	0.917	282	2.326	0.968	270	3.047	1.115	1109
Total	4.197	1.270	572	3.727	1.279	557	3.244	1.180	562	2.597	1.138	553	3.447	1.354	2244

V25 (L/s)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.910	0.669	291	1.584	0.647	281	1.278	0.566	280	1.001	0.544	283	1.447	0.697	1135
Female	1.599	0.682	281	1.313	0.587	276	1.091	0.510	282	0.898	0.522	270	1.228	0.635	1109
Total	1.757	0.693	572	1.450	0.632	557	1.184	0.546	562	0.951	0.535	553	1.339	0.676	2244

Peak Flow Time (sec)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.137	0.270	291	0.139	0.243	281	0.142	0.107	280	0.146	0.109	283	0.141	0.198	1135
Female	0.184	0.275	281	0.161	0.094	276	0.175	0.169	281	0.204	0.293	270	0.181	0.223	1108
Total	0.160	0.273	572	0.150	0.185	557	0.158	0.142	561	0.174	0.221	553	0.161	0.211	2243

Extrap V (%)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4.15	2.03	291	4.48	2.15	281	5.17	2.93	280	5.62	3.78	283	4.85	2.86	1135
Female	4.88	3.04	281	5.35	2.84	276	6.15	3.92	281	6.32	3.72	270	5.67	3.46	1108
Total	4.51	2.60	572	4.91	2.55	557	5.66	3.49	561	5.96	3.77	553	5.25	3.19	2243

2. Blood oxygen saturation

(Pulse oxymeter, Model9500 Oximeter, Nonin Medical, Inc.,)

O2 saturation (%O2)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	96.1	1.5	290	95.9	1.6	280	95.8	1.6	283	95.7	1.6	283	95.9	1.6	1136
Female	96.8	1.3	282	96.1	1.4	278	95.6	1.7	285	95.5	1.6	282	96.0	1.6	1127
Total	96.4	1.5	572	96.0	1.5	558	95.7	1.6	568	95.6	1.6	565	95.9	1.6	2263

3) Skin sensory system

1. Current perception thresholds of peripheral nerves

(Quantitative sensory test device, Neurometer, Neurotron, Inc.,)

Neurometer is a quantitative sensory test device for measuring neuro-selective current perception thresholds (CPT).

CPT at 2000, 250 and 5Hz are assumed to represent Aβ, Aδ and C fiber functions.

Neurometer (2000Hz) (x10microAmp)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	225.7	57.1	290	233.8	62.3	280	242.7	61.2	282	255.5	67.6	282	239.4	63.0	1134
Female	220.4	55.3	280	234.7	60.1	277	242.4	62.5	284	254.0	67.0	280	237.9	62.5	1121
Total	223.1	56.2	570	234.2	61.2	557	242.5	61.8	566	254.7	67.3	562	238.6	62.8	2255

Neurometer (250Hz) (x10microAmp)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	88.9	38.5	290	95.7	45.3	280	100.0	43.0	282	106.5	49.0	281	97.7	44.5	1133
Female	78.2	38.8	280	90.5	46.6	277	94.3	42.1	285	100.0	46.4	280	90.8	44.2	1122
Total	83.7	39.0	570	93.1	46.0	557	97.1	42.6	567	103.2	47.8	561	94.2	44.5	2255

Neurometer (5Hz) (x10microAmp)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	66.8	37.6	290	66.6	39.9	280	60.5	34.8	282	60.8	42.2	281	63.7	38.8	1133
Female	46.8	29.2	280	54.5	33.5	277	54.3	34.8	285	55.9	39.5	280	52.9	34.6	1122

Total	57.0	35.2	570	60.6	37.3	557	57.4	34.9	567	58.3	40.9	561	58.3	37.1	2255
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2. Skin two-point discrimination test

(A couple of needles, Perception needle, Uhu-seiki, Inc.,)

Two-point discrimination threshold is measured on the left palm of the hand using a couple of needles.

Two-points discrimination test (mm)

	40 – 49yr			50 – 59yr			60 – 69yr			70 – 79yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	9.7	3.6	291	9.9	2.7	281	11.0	4.4	283	11.9	5.3	282	10.6	4.2	1137
Female	9.8	4.1	282	10.6	4.6	278	11.5	6.1	285	12.7	4.5	280	11.1	5.0	1125
Total	9.8	3.9	573	10.3	3.8	559	11.3	5.3	568	12.3	5.0	562	10.9	4.6	2262