

6. Contrast sensitivity

Contrast sensitivity was measured at 1.5, 3, 6, 12, 18 cycles per degree with Vistech VCTS-6500.

Contrast sensitivity 1.5 (cycle/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	45.5	19.3	154	40.0	18.2	149	38.6	16.9	132	29.8	13.2	134	38.8	18.0	569
Female	41.1	19.4	145	37.1	13.9	135	32.2	13.6	138	27.8	11.6	133	34.7	15.8	551
Total	43.3	19.4	299	38.6	16.4	284	35.4	15.6	270	28.8	12.4	267	36.8	17.1	1120

Contrast sensitivity 3 (cycle/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	87.1	32.9	154	76.8	29.5	149	76.3	35.7	132	60.2	32.4	134	75.5	34.0	569
Female	80.7	32.1	145	77.9	29.8	135	67.6	31.3	138	54.8	25.9	133	70.5	31.5	551
Total	84.0	32.7	299	77.3	29.6	284	71.8	33.7	270	57.5	29.4	267	73.1	32.9	1120

Contrast sensitivity 6 (cycle/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	94.4	42.9	154	86.0	43.0	149	76.8	42.6	132	49.6	31.7	134	77.6	43.7	569
Female	92.2	41.4	145	88.3	39.5	135	67.7	45.0	138	43.2	27.5	133	73.3	43.5	551
Total	93.3	42.1	299	87.1	41.3	284	72.2	44.0	270	46.4	29.8	267	75.4	43.6	1120

Contrast sensitivity 12 (cycle/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	56.8	32.9	154	50.0	30.1	149	40.1	27.1	132	22.1	20.0	134	43.0	31.0	569
Female	53.1	28.4	145	51.7	32.4	135	33.1	27.8	138	18.8	16.6	133	39.4	30.4	551
Total	55.0	30.8	299	50.8	31.2	284	36.5	27.7	270	20.4	18.5	267	41.2	30.8	1120

Contrast sensitivity 18 (cycle/dgree)

	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	17.6	11.5	154	16.0	10.1	149	12.2	9.2	132	6.8	7.7	134	13.4	10.6	569
Female	18.0	12.7	145	17.2	11.6	135	11.6	10.7	138	6.0	5.9	133	13.3	11.6	551
Total	17.8	12.0	299	16.6	10.9	284	11.9	10.0	270	6.4	6.9	267	13.4	11.1	1120

7. Visual field

Visual field examination was performed with the Dynamic strategies of OCTOPUS 1-2-3 perimeter.

Central threshold of the visual field in the right eye (dB)

	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	31.2	2.6	140	31.4	2.4	134	30.6	3.0	108	27.8	5.8	120	30.3	3.9	502
Female	31.3	2.7	129	30.6	2.3	122	29.3	4.0	115	27.8	4.6	109	29.8	3.7	475
Total	31.2	2.6	269	31.0	2.4	256	29.9	3.6	223	27.8	5.2	229	30.1	3.8	977

Central threshold of the visual field in the left eye (dB)

	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	31.0	2.3	140	31.3	2.3	135	30.6	2.7	108	28.2	4.1	119	30.3	3.1	502
Female	31.0	2.8	129	30.3	3.2	121	29.3	4.1	118	27.7	5.1	113	29.6	4.0	481
Total	31.0	2.5	269	30.8	2.8	256	29.9	3.6	226	27.9	4.6	232	30.0	3.6	983

Mean sensitivity of the visual field in the right eye (dB)

	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	27.1	1.8	140	26.8	1.9	134	26.0	2.2	108	22.9	4.6	120	25.8	3.3	502
Female	27.0	1.7	129	26.5	1.9	122	24.6	2.9	115	22.7	3.7	110	25.3	3.1	476
Total	27.1	1.8	269	26.7	1.9	256	25.3	2.6	223	22.8	4.2	230	25.6	3.2	978

Mean sensitivity of the visual field in the left eye (dB)

	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	26.9	1.7	140	26.7	1.7	135	25.5	2.4	108	23.7	3.4	119	25.8	2.7	502
Female	26.8	1.6	129	26.4	1.6	121	24.8	2.7	118	23.1	3.5	113	25.3	2.9	481
Total	26.9	1.7	269	26.6	1.6	256	25.2	2.6	226	23.4	3.5	232	25.6	2.8	983

Visual field of the right eye

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	0	0	0	0	1	0.7	0	0	1	0.2
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	1	0.4	0	0	1	0.1
nothing	Male	140	90.3	120	80.5	90	67.2	65	47.1	415	72.0
	Female	129	89.0	107	79.3	79	56.8	49	36.3	364	65.7
	Total	269	89.7	227	79.9	169	61.9	114	41.8	779	68.9
glaucoma suspected	Male	2	1.3	8	5.4	12	9.0	14	10.1	36	6.3
	Female	5	3.4	11	8.1	7	5.0	11	8.1	34	6.1
	Total	7	2.3	19	6.7	19	7.0	25	9.2	70	6.2
typical glaucoma change	Male	0	0	1	0.7	0	0	3	2.2	4	0.7
	Female	0	0	0	0	1	0.7	3	2.2	4	0.7
	Total	0	0	1	0.4	1	0.4	6	2.2	8	0.7
contraction	Male	1	0.6	0	0	4	3.0	2	1.4	7	1.2
	Female	0	0	1	0.7	2	1.4	4	3.0	7	1.3
	Total	1	0.3	1	0.4	6	2.2	6	2.2	14	1.2
central scotoma	Male	0	0	2	1.3	2	1.5	2	1.4	6	1.0
	Female	0	0	0	0	3	2.2	3	2.2	6	1.1
	Total	0	0	2	0.7	5	1.8	5	1.8	12	1.1
atypical changes	Male	12	7.7	16	10.7	24	17.9	48	34.8	100	17.4
	Female	9	6.2	16	11.9	42	30.2	55	40.7	122	22.0
	Total	21	7.0	32	11.3	66	24.2	103	37.7	222	19.6
depression	Male	0	0	0	0	0	0	2	1.4	2	0.3
	Female	0	0	0	0	1	0.7	4	3.0	5	0.9
	Total	0	0	0	0	1	0.4	6	2.2	7	0.6
not examined	Male	0	0	2	1.3	1	0.7	2	1.4	5	0.9
	Female	2	1.4	0	0	4	2.9	6	4.4	12	2.2
	Total	2	0.7	2	0.7	5	1.8	8	2.9	17	1.5

Visual field of the left eye

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	0	0	0	0	0	0	1	0.7	1	0.2
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	1	0.4	1	0.1
nothing	Male	140	90.3	127	85.2	106	79.1	80	58.0	453	78.6
	Female	127	87.6	110	81.5	89	64.0	66	48.9	392	70.8
	Total	267	89.0	237	83.5	195	71.4	146	53.5	845	74.8
glaucoma suspected	Male	4	2.6	4	2.7	4	3.0	8	5.8	20	3.5
	Female	5	3.4	7	5.2	6	4.3	7	5.2	25	4.5
	Total	9	3.0	11	3.9	10	3.7	15	5.5	45	4.0
typical glaucoma change	Male	0	0	1	0.7	0	0	1	0.7	2	0.3
	Female	0	0	1	0.7	1	0.7	4	3.0	6	1.1
	Total	0	0	2	0.7	1	0.4	5	1.8	8	0.7
contraction	Male	2	1.3	0	0	5	3.7	2	1.4	9	1.6
	Female	0	0	1	0.7	3	2.2	6	4.4	10	1.8
	Total	2	0.7	1	0.4	8	2.9	8	2.9	19	1.7
central scotoma	Male	0	0	1	0.7	0	0	1	0.7	2	0.3
	Female	2	1.4	0	0	2	1.4	1	0.7	5	0.9
	Total	2	0.7	1	0.4	2	0.7	2	0.7	7	0.6
atypical changes	Male	9	5.8	15	10.1	17	12.7	41	29.7	82	14.2
	Female	10	6.9	15	11.1	37	26.6	48	35.6	110	19.9
	Total	19	6.3	30	10.6	54	19.8	89	32.6	192	17.0
depression	Male	0	0	0	0	0	0	1	0.7	1	0.2
	Female	0	0	0	0	0	0	1	0.7	1	0.2
	Total	0	0	0	0	0	0	2	0.7	2	0.2
not examined	Male	0	0	1	0.7	2	1.5	3	2.2	6	1.0
	Female	1	0.7	1	0.7	1	0.7	2	1.5	5	0.9
	Total	1	0.3	2	0.7	3	1.1	5	1.8	11	1.0

8. Intraocular pressure

Intraocular pressure was measured three times for each eye with a noncontact tomometer (NIDEK NT-3000) between 9 and 12 AM. The mean value of the three measurements was used for analysis.

Intraocular pressure of the right eye (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	14.84	2.52	155	14.37	3.06	149	13.46	2.87	133	12.89	2.85	138	13.93	2.92	575
Female	13.46	2.84	145	13.32	2.31	135	13.93	2.63	139	12.98	2.67	134	13.43	2.64	553
Total	14.17	2.76	300	13.87	2.77	284	13.70	2.75	272	12.93	2.76	272	13.68	2.80	1128

Intraocular pressure of the left eye (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	14.74	2.53	155	14.16	3.03	149	13.37	2.83	134	13.11	3.09	135	13.88	2.94	573
Female	13.41	2.96	145	13.21	2.50	135	13.83	2.78	139	12.94	2.77	135	13.35	2.77	554
Total	14.10	2.82	300	13.71	2.83	284	13.60	2.81	273	13.03	2.93	270	13.62	2.87	1127

9. Quantitative test of lens opacity

Scheimpflug images were recorded and analyzed with an anterior eye segment analysis system (NIDEK EAS-1000) version 3.05.

The integrated intensity of the scattering light was calculated using an integrated area program.

Anterior subcapsular opacification of the right eye (scattering intensity) (cct)

	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	2399.4	651.5	145	3319.4	787.2	136	4129.0	952.8	116	5112.9	1128	109	3627.7	1326	506
Female	2440.2	616.4	131	3337.7	718.4	123	4391.7	1131	123	5387.5	1159	109	3822.3	1435	486
Total	2418.8	634.3	276	3328.1	753.9	259	4264.2	1054	239	5250.2	1149	218	3723.0	1383	992

Anterior subcapsular opacification of the left eye (scattering intensity) (cct)

	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	2392.5	770.4	143	3334.1	851.2	137	4321.6	1100	112	4819.3	1072	109	3609.2	1326	501
Female	2433.2	602.6	131	3328.5	806.3	123	4449.1	1195	119	5445.0	1111	110	3843.8	1475	483
Total	2411.9	694.3	274	3331.5	828.7	260	4387.3	1149	231	5133.6	1133	219	3724.4	1405	984

Nuclear opacification of the right eye (scattering intensity) (cct)

	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	2113.5	593.1	137	2790.8	664.5	117	3562.3	1132	96	4664.7	1738	60	3019.4	1316	410
Female	2359.7	573.5	126	3030.1	596.6	110	3818.7	1361	97	4864.2	1644	79	3362.4	1400	412
Total	2231.5	595.6	263	2906.8	642.4	227	3691.2	1256	193	4778.1	1682	139	3191.3	1369	822

Nuclear opacification of the left eye (scattering intensity) (cct)

	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	2115.5	641.7	129	2806.8	775.4	108	3601.8	1081	89	4485.9	1350	54	2996.9	1229	380
Female	2387.8	636.7	119	3059.4	643.2	100	3746.8	970.7	74	4616.5	1497	66	3264.7	1224	359
Total	2246.2	652.4	248	2928.2	724.3	208	3667.6	1032	163	4557.7	1428	120	3127.0	1233	739

10. Retinal camera

Fundus photographs were taken with Topcon fundus camera (TRC-NW5S) at 20 and 45 degree angles for each eye without pupil dilatation.

Diabetic retinopathy, Arteriosclerosis, and macular degeneration were assessed on the photograph at 55 degree angles.

Vertical cup to disc ratio was measured on the photograph at 20 degree angles.

Cup-disc ratio of optic disc in the right eye

	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	0.41	0.10	152	0.41	0.12	149	0.42	0.12	133	0.42	0.14	132	0.41	0.12	566
Female	0.39	0.11	144	0.42	0.13	133	0.41	0.12	133	0.41	0.12	125	0.41	0.12	535
Total	0.40	0.11	296	0.41	0.12	282	0.41	0.12	266	0.42	0.13	257	0.41	0.12	1101

Cup-disc ratio of optic disc in the left eye

	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	0.42	0.11	152	0.41	0.14	148	0.41	0.12	131	0.41	0.13	129	0.41	0.12	560
Female	0.40	0.12	145	0.42	0.12	132	0.40	0.12	130	0.42	0.14	126	0.41	0.12	533
Total	0.41	0.11	297	0.42	0.13	280	0.40	0.12	261	0.42	0.13	255	0.41	0.12	1093

Fundus photography of the right eye - diabetic retinopathy

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	1	0.6	0	0	1	0.7	1	0.7	3	0.5
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.3	0	0	1	0.4	1	0.4	3	0.3
nothing	Male	153	98.7	148	99.3	128	95.5	131	94.9	560	97.2
	Female	145	100.0	133	98.5	128	92.1	125	92.6	531	95.8
	Total	298	99.3	281	98.9	256	93.8	256	93.8	1091	96.5
simple	Male	0	0	0	0	0	0	1	0.7	1	0.2
	Female	0	0	0	0	1	0.7	1	0.7	2	0.4
	Total	0	0	0	0	1	0.4	2	0.7	3	0.3
preproliferative	Male	0	0	0	0	2	1.5	0	0	2	0.3
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	2	0.7	0	0	2	0.2
invisible	Male	1	0.6	1	0.7	3	2.2	5	3.6	10	1.7
	Female	0	0	2	1.5	10	7.2	9	6.7	21	3.8
	Total	1	0.3	3	1.1	13	4.8	14	5.1	31	2.7



Fundus photography of the right eye - arteriosclerosis (Keith-Wagener grading)

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	1	0.6	0	0	1	0.7	1	0.7	3	0.5
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.3	0	0	1	0.4	1	0.4	3	0.3
nothing	Male	114	73.5	74	49.7	55	41.0	28	20.3	271	47.0
	Female	100	69.0	71	52.6	49	35.3	28	20.7	248	44.8
	Total	214	71.3	145	51.1	104	38.1	56	20.5	519	45.9
K-W I	Male	34	21.9	61	40.9	63	47.0	78	56.5	236	41.0
	Female	42	29.0	58	43.0	69	49.6	76	56.3	245	44.2
	Total	76	25.3	119	41.9	132	48.4	154	56.4	481	42.6
K-W IIa	Male	4	2.6	12	8.1	12	9.0	20	14.5	48	8.3
	Female	2	1.4	4	3.0	8	5.8	18	13.3	32	5.8
	Total	6	2.0	16	5.6	20	7.3	38	13.9	80	7.1
K-W IIb	Male	1	0.6	0	0	0	0	2	1.4	3	0.5
	Female	0	0	0	0	3	2.2	2	1.5	5	0.9
	Total	1	0.3	0	0	3	1.1	4	1.5	8	0.7
K-W III	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	1	0.7	0	0	1	0.7	2	0.4
	Total	0	0	1	0.4	0	0	1	0.4	2	0.2
invisible	Male	1	0.6	2	1.3	3	2.2	9	6.5	15	2.6
	Female	1	0.7	1	0.7	10	7.2	10	7.4	22	4.0
	Total	2	0.7	3	1.1	13	4.8	19	7.0	37	3.3

## Fundus photography of the right eye - macular degeneration

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	1	0.6	0	0	1	0.7	1	0.7	3	0.5
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.3	0	0	1	0.4	1	0.4	3	0.3
nothing	Male	147	94.8	136	91.3	120	89.6	117	84.8	520	90.3
	Female	142	97.9	128	94.8	121	87.1	109	80.7	500	90.3
	Total	289	96.3	264	93.0	241	88.3	226	82.8	1020	90.3
drusen	Male	2	1.3	6	4.0	8	6.0	4	2.9	20	3.5
	Female	2	1.4	4	3.0	2	1.4	6	4.4	14	2.5
	Total	4	1.3	10	3.5	10	3.7	10	3.7	34	3.0
atrophic change	Male	2	1.3	2	1.3	0	0	1	0.7	5	0.9
	Female	0	0	0	0	1	0.7	2	1.5	3	0.5
	Total	2	0.7	2	0.7	1	0.4	3	1.1	8	0.7
exudative change	Male	0	0	1	0.7	1	0.7	0	0	2	0.3
	Female	0	0	0	0	1	0.7	2	1.5	3	0.5
	Total	0	0	1	0.4	2	0.7	2	0.7	5	0.4
epiretinal membrane	Male	1	0.6	1	0.7	0	0	3	2.2	5	0.9
	Female	0	0	0	0	0	0	1	0.7	1	0.2
	Total	1	0.3	1	0.4	0	0	4	1.5	6	0.5
others	Male	0	0	0	0	1	0.7	1	0.7	2	0.3
	Female	0	0	0	0	1	0.7	2	1.5	3	0.5
	Total	0	0	0	0	2	0.7	3	1.1	5	0.4
invisible	Male	2	1.3	3	2.0	3	2.2	11	8.0	19	3.3
	Female	1	0.7	3	2.2	13	9.4	13	9.6	30	5.4
	Total	3	1.0	6	2.1	16	5.9	24	8.8	49	4.3

Fundus photography of the left eye - diabetic retinopathy

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	1	0.6	0	0	0	0	2	1.4	3	0.5
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.3	0	0	0	0	2	0.7	3	0.3
nothing	Male	152	98.1	146	98.0	129	96.3	126	91.3	553	96.0
	Female	145	100.0	133	98.5	129	92.8	125	92.6	532	96.0
	Total	297	99.0	279	98.2	258	94.5	251	91.9	1085	96.0
simple	Male	0	0	0	0	0	0	1	0.7	1	0.2
	Female	0	0	0	0	1	0.7	1	0.7	2	0.4
	Total	0	0	0	0	1	0.4	2	0.7	3	0.3
preproliferative	Male	0	0	0	0	2	1.5	0	0	2	0.3
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	2	0.7	0	0	2	0.2
invisible	Male	2	1.3	3	2.0	3	2.2	9	6.5	17	3.0
	Female	0	0	2	1.5	9	6.5	9	6.7	20	3.6
	Total	2	0.7	5	1.8	12	4.4	18	6.6	37	3.3

Fundus photography of the left eye - arteriosclerosis (Keith-Wagener grading)

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	1	0.6	0	0	0	0	2	1.4	3	0.5
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.3	0	0	0	0	2	0.7	3	0.3
nothing	Male	110	71.0	75	50.3	56	41.8	26	18.8	267	46.4
	Female	99	68.3	73	54.1	47	33.8	27	20.0	246	44.4
	Total	209	69.7	148	52.1	103	37.7	53	19.4	513	45.4
K-W I	Male	37	23.9	62	41.6	61	45.5	84	60.9	244	42.4
	Female	44	30.3	54	40.0	75	54.0	77	57.0	250	45.1
	Total	81	27.0	116	40.8	136	49.8	161	59.0	494	43.7
K-W IIa	Male	4	2.6	11	7.4	13	9.7	14	10.1	42	7.3
	Female	2	1.4	5	3.7	8	5.8	15	11.1	30	5.4
	Total	6	2.0	16	5.6	21	7.7	29	10.6	72	6.4
K-W IIb	Male	1	0.6	0	0	0	0	0	0	1	0.2
	Female	0	0	1	0.7	0	0	2	1.5	3	0.5
	Total	1	0.3	1	0.4	0	0	2	0.7	4	0.4
K-W III	Male	0	0	0	0	0	0	1	0.7	1	0.2
	Female	0	0	0	0	0	0	2	1.5	2	0.4
	Total	0	0	0	0	0	0	3	1.1	3	0.3
invisible	Male	2	1.3	1	0.7	4	3.0	11	8.0	18	3.1
	Female	0	0	2	1.5	9	6.5	12	8.9	23	4.2
	Total	2	0.7	3	1.1	13	4.8	23	8.4	41	3.6

## Fundus photography of the left eye - macular degeneration

		40-49yr		50-59yr		60-69yr		70-79yr		Total	
		N	%	N	%	N	%	N	%	N	%
not recorded	Male	1	0.6	0	0	0	0	2	1.4	3	0.5
	Female	0	0	0	0	0	0	0	0	0	0
	Total	1	0.3	0	0	0	0	2	0.7	3	0.3
nothing	Male	143	92.3	136	91.3	123	91.8	107	77.5	509	88.4
	Female	141	97.2	128	94.8	126	90.6	110	81.5	505	91.2
	Total	284	94.7	264	93.0	249	91.2	217	79.5	1014	89.7
drusen	Male	6	3.9	5	3.4	4	3.0	8	5.8	23	4.0
	Female	1	0.7	3	2.2	1	0.7	6	4.4	11	2.0
	Total	7	2.3	8	2.8	5	1.8	14	5.1	34	3.0
atrophic change	Male	1	0.6	1	0.7	0	0	1	0.7	3	0.5
	Female	1	0.7	0	0	0	0	2	1.5	3	0.5
	Total	2	0.7	1	0.4	0	0	3	1.1	6	0.5
exudative change	Male	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	1	0.7	1	0.2
	Total	0	0	0	0	0	0	1	0.4	1	0.1
epiretinal membrane	Male	0	0	1	0.7	0	0	3	2.2	4	0.7
	Female	0	0	0	0	0	0	0	0	0	0
	Total	0	0	1	0.4	0	0	3	1.1	4	0.4
others	Male	0	0	0	0	0	0	1	0.7	1	0.2
	Female	1	0.7	0	0	0	0	1	0.7	2	0.4
	Total	1	0.3	0	0	0	0	2	0.7	3	0.3
invisible	Male	4	2.6	6	4.0	7	5.2	16	11.6	33	5.7
	Female	1	0.7	4	3.0	12	8.6	15	11.1	32	5.8
	Total	5	1.7	10	3.5	19	7.0	31	11.4	65	5.8

Auditory system

1. Pure-tone audiometry (Audiometer RION AA-73A)

※ If no response occurs at the maximum output level of this audiometer, the threshold is treated as following.

Air conduction			Bone conduction		
Maximum output level		Inputed level	Maximum output level		Inputed level
500Hz	100	105	65		70
1000Hz	100	105	70		75
2000Hz	100	105	70		75
4000Hz	100	105	60		65
8000Hz	95	100			

Air conduction threshold of right ear at 500Hz (dBHL)

	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	10.5	8.8	155	15.9	13.4	148	19.2	12.7	134	25.4	17.1	137	17.5	14.3	574
Female	12.0	8.9	145	15.9	13.8	135	19.5	12.6	138	25.0	15.3	135	18.0	13.6	553
Total	11.2	8.9	300	15.9	13.6	283	19.3	12.6	272	25.2	16.2	272	17.7	14.0	1127

Air conduction threshold of right ear at 1000Hz (dBHL)

	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	9.0	10.1	155	14.4	14.8	148	18.4	13.8	134	26.5	19.4	137	16.8	16.1	574
Female	8.1	8.5	145	12.1	12.4	135	16.7	13.4	138	24.9	16.3	135	15.3	14.3	553
Total	8.6	9.3	300	13.3	13.7	283	17.6	13.6	272	25.7	17.9	272	16.1	15.2	1127

Air conduction threshold of right ear at 2000Hz (dBHL)

	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	12.4	11.9	155	18.8	15.2	148	25.4	16.3	134	36.4	20.1	137	22.8	18.3	574
Female	11.8	7.7	145	15.2	11.8	135	21.7	13.8	138	30.4	16.7	135	19.7	14.7	553
Total	12.1	10.1	300	17.1	13.8	283	23.5	15.2	272	33.4	18.7	272	21.3	16.7	1127

Air conduction threshold of right ear at 4000Hz (dBHL)

	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	16.7	15.6	155	29.9	20.6	148	37.8	21.3	134	52.2	21.7	137	33.5	23.6	574
Female	10.4	9.8	145	15.8	14.6	135	25.8	18.0	138	37.7	20.4	135	22.2	19.2	553
Total	13.7	13.5	300	23.1	19.3	283	31.7	20.6	272	45.0	22.2	272	28.0	22.3	1127

Air conduction threshold of right ear at 8000Hz (dBHL)

	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	23.3	16.6	155	34.3	19.9	148	48.3	21.6	134	65.7	19.7	137	42.1	25.1	574
Female	18.4	13.3	145	28.5	18.1	135	40.2	21.0	138	60.5	21.5	135	36.6	24.4	553
Total	20.9	15.3	300	31.5	19.3	283	44.2	21.6	272	63.1	20.8	272	39.4	24.9	1127

Bone Air conduction threshold of right ear at 500Hz (dBHL)

	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	52.5	24.7	2	30.3	14.0	16	30.7	16.2	23	36.1	16.6	48	34.0	16.4	89
Female	26.3	14.3	8	32.7	13.8	13	27.2	13.1	23	37.6	11.4	42	33.0	13.2	86
Total	31.5	18.7	10	31.4	13.7	29	28.9	14.7	46	36.8	14.4	90	33.5	14.9	175

Bone Air conduction threshold of right ear at 1000Hz (dBHL)

	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	45.0	26.8	4	39.0	13.8	15	29.8	17.6	26	39.5	16.9	57	37.2	17.4	102
Female	27.0	20.2	5	31.5	8.8	10	34.0	12.9	20	39.2	10.1	50	36.4	11.8	85
Total	35.0	23.7	9	36.0	12.4	25	31.6	15.7	46	39.3	14.1	107	36.8	15.1	187

Bone conduction threshold of right ear at 2000Hz (dBHL)

	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	61.7	15.3	3	38.6	13.0	28	38.2	14.0	46	45.7	15.7	82	42.6	15.3	159
Female	30.0	13.0	6	31.5	13.1	13	36.5	9.4	33	41.7	12.3	66	38.6	12.2	118
Total	40.6	20.4	9	36.3	13.3	41	37.5	12.2	79	44.0	14.3	148	40.9	14.2	277

Bone conduction threshold of right ear at 4000Hz (dBHL)

	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	42.8	14.1	18	42.5	11.9	61	46.3	11.3	82	50.6	12.8	112	47.0	12.6	273
Female	40.0	12.2	5	30.3	13.9	18	38.0	10.9	49	43.1	13.8	84	39.9	13.5	156
Total	42.2	13.5	23	39.7	13.3	79	43.2	11.8	131	47.4	13.7	196	44.4	13.4	429

Air conduction threshold of left ear at 500Hz (dBHL)

	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	10.9	10.3	155	14.5	13.6	148	17.9	14.9	134	22.9	15.6	136	16.3	14.3	573
Female	11.7	10.4	145	13.5	9.2	135	18.1	13.3	138	22.2	13.4	135	16.3	12.4	553
Total	11.3	10.4	300	14.0	11.7	283	18.0	14.0	272	22.6	14.5	271	16.3	13.4	1126

Air conduction threshold of left ear at 1000Hz (dBHL)

	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	9.5	9.9	155	13.3	14.3	148	17.8	15.7	134	26.3	18.6	136	16.4	16.0	573
Female	6.7	10.9	145	9.2	8.1	135	15.0	13.0	138	20.9	15.2	135	12.8	13.2	553
Total	8.2	10.5	300	11.4	11.9	283	16.4	14.5	272	23.6	17.2	271	14.7	14.8	1126

Air conduction threshold of left ear at 2000Hz (dBHL)

	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	12.3	11.0	155	19.0	16.6	148	25.6	17.4	134	36.3	20.5	136	22.8	18.7	573
Female	10.3	10.6	145	13.7	9.0	135	20.5	14.8	138	28.0	16.4	135	18.0	14.7	553
Total	11.4	10.9	300	16.4	13.7	283	23.0	16.3	272	32.1	19.0	271	20.5	17.0	1126

Air conduction threshold of left ear at 4000Hz (dBHL)

	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	18.1	14.5	155	28.6	19.2	148	38.8	20.6	134	52.6	19.7	136	33.9	22.5	573
Female	9.4	11.0	145	15.7	12.4	135	25.5	17.7	138	35.3	18.8	135	21.3	18.1	553
Total	13.9	13.6	300	22.5	17.6	283	32.1	20.3	272	44.0	21.1	271	27.7	21.4	1126



Air conduction threshold of left ear at 8000Hz (dBHL)

	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	21.5	14.9	155	34.8	20.8	148	50.3	21.7	134	66.3	19.0	136	42.3	25.5	573
Female	19.1	16.3	145	30.1	17.9	135	41.2	20.0	138	58.6	21.6	135	36.9	24.0	553
Total	20.3	15.6	300	32.5	19.6	283	45.7	21.3	272	62.4	20.7	271	39.7	24.9	1126

Bone conduction threshold of left ear at 500Hz (dBHL)

	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	33.8	11.1	4	25.3	14.2	18	27.9	16.6	21	38.4	16.1	44	32.9	16.5	87
Female	35.0	11.5	7	25.0	8.5	8	30.4	14.2	26	34.4	11.7	36	32.1	12.5	77
Total	34.5	10.8	11	25.2	12.5	26	29.3	15.2	47	36.6	14.3	80	32.6	14.7	164

Bone conduction threshold of left ear at 1000Hz (dBHL)

	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	30.0	17.8	4	26.8	13.3	19	28.9	18.1	23	38.6	15.4	57	33.9	16.4	103
Female	38.0	21.7	5	31.3	11.1	4	32.8	15.2	16	40.1	11.3	36	37.5	13.5	61
Total	34.4	19.3	9	27.6	12.8	23	30.5	16.9	39	39.2	13.9	93	35.2	15.4	164

Bone conduction threshold of left ear at 2000Hz (dBHL)

	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	42.0	18.2	5	35.2	13.8	29	39.8	13.7	44	45.6	16.7	82	42.0	15.8	160
Female	42.0	19.9	5	33.8	7.9	8	38.0	10.7	33	42.6	12.1	61	40.5	12.0	107
Total	42.0	18.0	10	34.9	12.7	37	39.0	12.5	77	44.3	14.9	143	41.4	14.4	267

Bone conduction threshold of left ear at 4000Hz (dBHL)

	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	39.2	13.5	25	39.2	11.5	67	45.4	12.2	85	50.9	12.8	119	45.7	13.3	296
Female	35.8	16.9	6	34.4	13.5	16	39.9	13.3	43	44.8	11.4	74	41.7	12.9	139
Total	38.5	14.0	31	38.3	12.0	83	43.5	12.8	128	48.5	12.6	193	44.4	13.3	435

2. Impedance Audiometry

Tympanometric peak pressure in the single frequency tympanogram at 226Hz for right ear (daPa)

	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	-3.9	27.7	140	-6.5	33.8	134	-9.7	33.7	107	-15.9	51.4	117	-8.7	37.4	498
Female	1.0	15.6	128	-6.6	33.4	118	-16.6	49.6	117	-9.7	38.9	109	-7.7	36.6	472
Total	-1.6	22.8	268	-6.5	33.6	252	-13.3	42.8	224	-12.9	45.8	226	-8.2	37.0	970

Static compliance in the single frequency tympanogram at 226Hz for right ear (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	0.84	0.66	140	0.99	1.03	134	0.81	0.87	107	0.81	0.69	117	0.87	0.83	498
Female	0.68	0.55	128	0.76	0.70	118	0.61	0.52	117	0.56	0.50	109	0.65	0.57	472
Total	0.76	0.61	268	0.88	0.90	252	0.70	0.71	224	0.69	0.62	226	0.76	0.72	970

Tympanometric peak pressure in the single frequency tympanogram at 226Hz for left ear (daPa).

	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	-5.9	34.2	140	-7.4	35.9	130	-10.2	41.4	110	-8.2	37.0	115	-7.8	36.9	495
Female	0.5	17.0	125	-2.3	34.5	120	-8.9	37.7	116	-5.1	30.0	110	-3.8	30.8	471
Total	-2.9	27.6	265	-5.0	35.3	250	-9.5	39.4	226	-6.7	33.7	225	-5.9	34.1	966

Static compliance in the single frequency tympanogram at 226Hz for left ear (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	0.77	0.60	140	0.83	0.80	130	0.84	0.67	110	0.81	0.88	115	0.81	0.74	495
Female	0.62	0.82	125	0.67	0.62	120	0.58	0.45	116	0.58	0.49	110	0.61	0.62	471
Total	0.70	0.72	265	0.75	0.72	250	0.71	0.58	226	0.70	0.72	225	0.72	0.69	966

Middle ear resonance frequency for right ear (Hz)

	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	788.7	195.5	137	761.5	231.7	130	803.6	217.6	97	825.0	247.2	110	792.7	223.3	474
Female	853.7	238.3	123	835.8	222.7	107	828.3	241.1	106	897.9	261.8	97	853.0	241.3	433
Total	819.4	218.8	260	795.1	230.2	237	816.5	230.0	203	859.2	256.1	207	821.5	233.9	907

Middle ear resonance frequency for left ear (Hz)

	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	806.6	226.6	136	769.0	198.5	126	807.6	221.5	92	795.4	232.0	108	793.9	219.4	462
Female	839.7	216.3	121	885.5	226.7	107	871.0	232.2	105	865.3	224.3	98	864.5	224.6	431
Total	822.2	222.0	257	822.5	219.3	233	841.4	228.9	197	828.6	230.5	206	828.0	224.6	893

# IX. Physiological Examinations