

Waist (at umbilicus) to hip ratio

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	0.91	0.05	155	0.91	0.04	149	0.93	0.05	134	0.94	0.06	138	0.92	0.05	576
Female	0.90	0.06	145	0.93	0.06	135	0.97	0.06	139	0.97	0.07	135	0.94	0.07	554
Total	0.90	0.05	300	0.92	0.05	284	0.95	0.06	273	0.95	0.06	273	0.93	0.06	1130

Waist (at mid-way) to hip ratio

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	0.88	0.05	155	0.89	0.05	149	0.91	0.06	134	0.91	0.07	138	0.90	0.06	576
Female	0.79	0.05	145	0.81	0.06	135	0.84	0.06	139	0.85	0.07	135	0.82	0.07	554
Total	0.84	0.07	300	0.85	0.07	284	0.88	0.07	273	0.88	0.07	273	0.86	0.07	1130

2) Body composition

1. Percent body fat

Body density by BOD POD (kg/cm³)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	1.050	0.014	154	1.050	0.012	149	1.045	0.013	133	1.044	0.014	138	1.047	0.014	574
Female	1.036	0.013	145	1.030	0.013	133	1.022	0.012	139	1.024	0.014	130	1.028	0.014	547
Total	1.043	0.015	299	1.040	0.016	282	1.033	0.017	272	1.034	0.017	268	1.038	0.017	1121

Percent body fat by DXA (%)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	20.5	4.7	155	20.3	4.0	149	21.5	4.3	134	21.6	4.7	137	20.9	4.5	575
Female	30.3	4.5	145	31.3	4.7	135	33.0	4.8	138	31.9	6.0	133	31.6	5.1	551
Total	25.2	6.7	300	25.5	7.0	284	27.4	7.3	272	26.6	7.5	270	26.2	7.2	1126

Percent body fat by BOD POD (%)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	21.2	5.8	154	21.3	5.0	149	23.4	5.4	133	23.5	6.2	138	22.3	5.7	574
Female	27.2	5.5	145	29.7	5.6	133	33.1	5.1	139	32.0	6.0	130	30.4	6.0	547
Total	24.1	6.4	299	25.3	6.7	282	28.3	7.1	272	27.6	7.5	268	26.3	7.1	1121

Impedance by Tanita (ohms)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	459.0	63.3	155	455.0	60.4	149	426.1	71.8	133	407.1	80.8	137	437.9	72.2	574
Female	478.2	63.7	144	471.1	55.1	135	457.3	65.8	139	419.8	81.2	135	457.0	70.5	553
Total	468.3	64.1	299	462.6	58.4	284	442.1	70.4	272	413.4	81.1	272	447.3	72.0	1127

Percent body fat by Tanita (%)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	20.9	5.4	155	20.0	5.4	149	17.7	5.6	133	15.3	6.0	137	18.6	6.0	574
Female	27.6	6.0	144	27.5	5.7	135	27.5	6.1	139	25.0	6.7	135	26.9	6.2	553
Total	24.1	6.6	299	23.6	6.7	284	22.7	7.6	272	20.1	8.0	272	22.7	7.4	1127

2. Total body water, extracellular fluid volume, intracellular fluid volume

Total body water by Tanita (L)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	37.8	5.1	155	36.5	3.9	149	36.1	4.5	133	35.0	4.9	137	36.4	4.8	574
Female	28.4	2.8	144	28.1	2.4	135	27.4	2.9	139	26.7	3.7	135	27.6	3.1	553
Total	33.3	6.3	299	32.5	5.3	284	31.6	5.8	272	30.9	6.0	272	32.1	5.9	1127

Total body water by XITRON (L)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	39.0	5.6	154	36.6	4.1	149	34.7	4.5	134	31.8	4.3	138	35.7	5.4	575
Female	27.3	3.9	145	26.4	2.8	134	25.1	3.2	138	23.4	3.3	135	25.6	3.6	552
Total	33.4	7.6	299	31.8	6.2	283	29.8	6.2	272	27.7	5.7	273	30.7	6.8	1127

Extracellular fluid by Xitron (L)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	16.6	2.1	154	15.9	1.6	149	15.5	1.9	134	14.9	1.9	138	15.7	2.0	575
Female	12.5	1.6	145	12.3	1.3	134	11.9	1.5	138	11.5	1.6	135	12.1	1.5	552
Total	14.6	2.7	299	14.2	2.3	283	13.7	2.5	272	13.2	2.5	273	13.9	2.6	1127

Intracellular fluid by Xitron (L)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	22.5	3.7	154	20.8	2.8	149	19.2	2.9	134	16.9	2.6	138	19.9	3.7	575
Female	14.8	2.5	145	14.1	1.8	134	13.1	1.9	138	11.9	1.9	135	13.5	2.3	552
Total	18.7	5.0	299	17.6	4.1	283	16.1	3.9	272	14.4	3.4	273	16.8	4.5	1127

Total body water by Sekisui (L)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	37.6	4.8	138	35.6	4.0	135	34.3	4.1	110	32.9	4.1	118	35.2	4.6	501
Female	26.7	3.2	130	26.0	2.4	119	24.8	2.7	116	23.9	2.8	114	25.4	3.0	479
Total	32.3	6.8	268	31.1	5.9	254	29.5	5.9	226	28.5	5.7	232	30.4	6.3	980

Extracellular fluid by Sekisui (L)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	12.1	2.1	138	12.0	2.0	135	12.0	2.2	110	12.1	2.3	118	12.1	2.1	501
Female	9.0	1.7	130	8.8	1.4	119	8.8	1.5	116	8.8	1.6	114	8.9	1.6	479
Total	10.6	2.5	268	10.5	2.3	254	10.3	2.5	226	10.5	2.6	232	10.5	2.5	980

Intracellular fluid by Sekisui (L)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	25.4	3.4	138	23.7	2.7	135	22.4	2.4	110	20.7	2.5	118	23.2	3.3	501
Female	17.7	1.9	130	17.2	1.5	119	16.0	1.6	116	15.2	1.5	114	16.6	1.9	479
Total	21.7	4.8	268	20.6	3.9	254	19.1	3.8	226	18.0	3.5	232	19.9	4.3	980

3) Thickness of subcutaneous fat, thickness of preperitoneal fat, thickness of muscle

Thickness of subcutaneous fat at right of umbilicus (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	17.3	7.1	155	14.9	5.8	148	15.1	6.0	133	13.1	5.4	133	15.2	6.3	569
Female	24.0	8.8	142	24.8	8.7	131	26.7	10.0	134	21.8	9.3	131	24.3	9.3	538
Total	20.5	8.6	297	19.6	8.8	279	20.9	10.1	267	17.4	8.8	264	19.6	9.2	1107

Thickness of musculus rectus abdominis at right of umbilicus (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	11.7	2.0	155	10.9	1.8	148	10.1	1.7	133	9.5	1.9	133	10.6	2.0	569
Female	9.0	1.7	140	8.6	1.8	131	8.1	1.7	134	7.6	1.8	130	8.3	1.8	535
Total	10.4	2.3	295	9.9	2.1	279	9.1	1.9	267	8.6	2.1	263	9.5	2.2	1104

Thickness of subcutaneous fat between xiphoid process and umbilicus (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	11.5	3.8	137	10.6	4.0	141	11.2	3.9	120	10.2	3.8	119	10.9	3.9	517
Female	16.5	4.9	132	17.5	5.1	120	17.3	5.1	117	15.6	4.8	115	16.7	5.0	484
Total	14.0	5.0	269	13.8	5.7	261	14.2	5.5	237	12.9	5.1	234	13.7	5.3	1001

Thickness of preperitoneal fat (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	10.1	3.7	138	8.7	3.4	140	9.1	4.2	120	7.4	3.6	116	8.9	3.8	514
Female	9.6	3.7	132	10.2	3.7	118	9.8	3.9	116	8.7	4.1	115	9.6	3.9	481
Total	9.9	3.7	270	9.4	3.6	258	9.5	4.1	236	8.1	3.9	231	9.2	3.9	995

Thickness of subcutaneous fat at thigh (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	6.7	1.9	155	6.3	1.7	148	6.0	1.7	134	6.2	1.7	133	6.3	1.8	570
Female	11.3	2.8	143	10.8	3.1	133	10.5	3.1	137	9.3	3.9	134	10.5	3.3	547
Total	8.9	3.3	298	8.5	3.3	281	8.3	3.4	271	7.7	3.4	267	8.3	3.4	1117

Thickness of musculus rectus femoris (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	34.9	7.2	155	32.4	6.6	148	29.8	6.7	134	26.8	6.2	133	31.2	7.3	570
Female	31.6	7.1	143	29.4	5.9	133	27.6	5.8	137	23.5	5.8	133	28.1	6.9	546
Total	33.4	7.3	298	31.0	6.4	281	28.7	6.3	271	25.2	6.2	266	29.7	7.3	1116

Thickness of subcutaneous fat at 10cm above knee (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	6.6	1.7	83	6.5	1.5	95	6.0	1.6	78	5.8	1.4	87	6.2	1.6	343
Female	10.2	2.1	91	10.4	3.2	83	9.4	2.8	85	7.9	3.1	74	9.5	2.9	333
Total	8.5	2.6	174	8.3	3.1	178	7.8	2.9	163	6.7	2.5	161	7.8	2.9	676

Thickness of musculus rectus femoris at 10cm above knee (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	25.4	6.6	83	24.3	5.8	95	21.7	5.2	78	20.1	5.0	87	22.9	6.0	343
Female	23.2	5.9	91	21.7	5.2	83	20.3	4.9	85	16.6	4.4	74	20.6	5.7	333
Total	24.2	6.3	174	23.1	5.6	178	20.9	5.1	163	18.5	5.1	161	21.8	6.0	676

Thickness of subcutaneous fat at 5cm above knee (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	6.7	1.8	83	6.4	1.7	95	5.7	1.4	78	5.3	1.3	87	6.0	1.7	343
Female	9.5	2.5	91	9.1	3.0	83	8.1	2.5	85	6.9	2.9	74	8.5	2.9	333
Total	8.2	2.6	174	7.6	2.7	178	6.9	2.4	163	6.1	2.3	161	7.2	2.6	676

Thickness of musculus rectus femoris at 5cm above knee (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	18.3	5.4	83	17.7	4.3	95	16.2	3.6	78	15.7	3.9	87	17.0	4.5	343
Female	16.5	4.7	91	15.7	3.9	83	15.1	3.6	85	13.0	2.9	74	15.2	4.1	333
Total	17.3	5.1	174	16.8	4.2	178	15.6	3.6	163	14.5	3.7	161	16.1	4.4	676

Thickness of subcutaneous fat at upper arm (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	6.3	2.2	155	5.9	1.6	148	5.8	1.6	134	5.9	1.6	133	6.0	1.8	570
Female	10.7	2.8	143	11.1	2.6	132	10.7	3.1	137	9.9	2.8	134	10.6	2.8	546
Total	8.4	3.3	298	8.3	3.3	280	8.2	3.5	271	7.9	3.0	267	8.2	3.3	1116

Thickness of musculus triceps brachii (mm)

	40-49yr			50-59yr			60-69yr			70-79yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	25.5	5.8	155	25.3	5.5	148	23.1	6.3	134	22.5	6.4	133	24.2	6.1	570
Female	21.8	5.8	143	21.8	5.5	132	22.0	6.4	137	20.1	6.2	134	21.4	6.0	546
Total	23.7	6.0	298	23.6	5.8	280	22.5	6.3	271	21.3	6.4	267	22.8	6.2	1116

XII. Head MRI Measurements

XII. Head MRI Measurements

- 1) Total area of brain parenchyma (cm²)
- 2) Whole brain volume (cm³)
- 3) Area of vermis in midsagittal slice (cm²)
- 4) Area of ventral pons in midsagittal slice (cm²)
- 5) Area of corpus callosum in midsagittal slice (cm²)
- 6) Cross-sectional area of skull in midsagittal slice (cm²)
- 7) Area of lateral ventricle (cm²)
- 8) Area of brain parenchyma (cm²)
- 9) Area of subarachnoid CSF (forward from the tip of lateral ventricle)(cm²)
- 10) Area of subarachnoid CSF (subarachnoid CSF from anterior horn to posterior horn)
(cm²)

Total area of brain parenchyma(cm³)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	1453.1	112.3	77	1400.8	117.7	72	1375.0	117.9	66	1320.6	120.4	71	1389.0	126.1	286
Female	1279.5	124.4	65	1253.3	82.9	77	1234.5	90.7	76	1222.5	89.3	69	1246.9	98.9	287
Total	1373.6	146.1	142	1324.6	125.1	149	1299.8	125.4	142	1272.2	116.7	140	1317.8	133.7	573

Whole brain volume(cm³)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	1380.4	106.7	77	1330.8	111.9	72	1306.2	112.0	66	1254.5	114.4	71	1319.6	119.8	286
Female	1215.6	118.2	65	1190.6	78.7	77	1172.8	86.1	76	1161.3	84.8	69	1184.5	93.9	287
Total	1305.0	138.8	142	1258.3	118.8	149	1234.8	119.1	142	1208.6	110.9	140	1251.9	127.0	573

Area of vermis in midsagittal slice(cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	8.9	1.2	78	8.7	1.2	73	8.7	1.1	66	8.3	1.1	71	8.7	1.2	288
Female	8.3	1.1	66	8.4	1.1	79	8.3	1.1	76	8.0	1.1	70	8.2	1.1	291
Total	8.6	1.2	144	8.5	1.2	152	8.5	1.1	142	8.1	1.1	141	8.4	1.2	579

Area of ventral pons in midsagittal slice(cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	3.0	0.3	78	3.0	0.4	73	3.0	0.4	66	2.9	0.4	71	3.0	0.4	288
Female	2.8	0.3	66	2.8	0.3	79	2.8	0.3	76	2.8	0.3	70	2.8	0.3	291
Total	2.9	0.3	144	2.9	0.4	152	2.9	0.4	142	2.9	0.4	141	2.9	0.4	579

Area of corpus callosum in midsagittal slice(cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	5.5	0.7	78	5.4	0.7	73	5.3	0.8	66	4.9	0.9	71	5.3	0.8	288
Female	5.1	0.7	66	5.2	0.7	79	5.2	0.7	76	4.9	0.6	70	5.1	0.7	291
Total	5.3	0.7	144	5.3	0.7	152	5.2	0.7	142	4.9	0.8	141	5.2	0.7	579

Cross-sectional area of skull in midsagittal slice(cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	130.4	8.7	78	127.5	9.6	73	126.4	8.7	65	126.5	8.8	71	127.8	9.1	287
Female	120.5	9.0	66	119.6	7.2	79	118.6	8.0	76	119.3	7.7	70	119.5	7.9	291
Total	125.9	10.1	144	123.4	9.3	152	122.1	9.2	141	122.9	9.0	141	123.6	9.5	578

Area of lateral ventricle (cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	7.5	3.4	78	9.0	3.6	72	10.8	4.3	66	13.4	4.5	71	10.1	4.5	287
Female	6.3	2.8	66	6.7	2.8	79	8.9	3.8	76	11.5	4.4	70	8.3	4.0	291
Total	7.0	3.2	144	7.8	3.4	151	9.8	4.2	142	12.5	4.5	141	9.2	4.4	578

Area of brain parenchyma(cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	155.7	8.5	78	151.7	7.8	72	149.7	9.4	66	145.7	8.8	71	150.8	9.3	287
Female	144.9	8.6	66	141.1	7.7	79	139.4	7.6	76	137.5	6.7	70	140.7	8.1	291
Total	150.7	10.1	144	146.2	9.4	151	144.2	9.9	142	141.6	8.8	141	145.7	10.1	578

Area of subarachnoid CSF(forward from the tip of lateral ventricle)(cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	3.0	1.6	78	3.5	1.4	72	4.3	1.9	66	5.7	2.3	71	4.1	2.1	287
Female	2.2	1.1	66	2.7	1.3	79	3.4	1.7	76	3.9	1.6	70	3.1	1.6	291
Total	2.7	1.4	144	3.1	1.4	151	3.8	1.8	142	4.8	2.2	141	3.6	1.9	578

Area of subarachnoid CSF(subarachnoid CSF from anterior horn to posterior horn)(cm²)

	40-49yr			50-59yr			60-69yr			70-80yr			Total		
	Mean	SD	N	Mean	SD	N									
Male	2.7	1.1	78	3.2	1.1	72	4.0	1.6	66	5.2	2.9	71	3.7	2.0	287
Female	1.9	0.9	66	2.3	1.0	79	3.0	1.1	76	3.7	1.6	70	2.8	1.4	291
Total	2.4	1.1	144	2.7	1.1	151	3.5	1.5	142	4.5	2.4	141	3.2	1.8	578