

APPENDIX

APPENDIX I

Table I.1. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Malay males.

No.	Incisive foramen LP ϕ^a	Incisive Foramen MD ϕ^b	Nasal foramen ϕ^c	Right foramen nasal ϕ	Left nasal foramen ϕ	IC length ^d	Right IC length	Left IC length	IC width	Bone thickness	Incisive foramen location	NO. channels	Course and direction
1	2.32	1.8	1.26	1.62	0.9	18.4	18.68	18.13	1.51	7.69	11.63	1	Slanted-curve
2	1.97	3.6	4.2	3.58	4.83	12.56	12.9	12.23	2.69	11.86	13.34	2	Slanted-curve
3	4.04	6.6	11.63	12.9	10.36	18.67	19.31	18.03	6.81	6.7	13.55	2	Slanted-straight
4	3.24	2.7	6.38	7.92	4.85	19.79	18.56	21.03	3.63	10.44	16.11	2	Slanted-curve
5	3.1	4.4	6.96	10.63	3.3	19.61	22.15	17.08	4.52	6.34	9.55	2	Slanted -curve
6	2.7	3.3	3.38	3.35	3.42	16.3	17.06	15.54	2.99	9.99	16.07	1	Slanted-curve
7	3.3	3	16.03	15.49	16.57	27.47	27.95	27	7.2	6.04	10.64	1	Slanted-curve
8	2.95	3.9	4.8	4.5	5.11	20.78	21.42	20.14	3.36	9.78	15.33	1	Slanted-curve
9	3.35	3.3	12.96	12.96	12.96	15.71	16.99	14.43	6.26	9.48	14.71	2	Slanted-straight
10	2.99	3.6	5.2	5.82	4.59	17.56	16.1	19.03	3.16	7.93	14.69	1	Slanted-curve
11	3.85	3.61	5.79	6.41	5.18	19.7	18.81	20.59	3.8	7.64	10.85	1	Slanted-curve
12	3.38	2.4	4.27	4.46	4.08	19.58	19.61	19.55	2.99	10.26	13.45	1	Slanted-curve
13	2.03	3.9	7.97	8.82	7.13	23.86	24.91	22.82	6.68	8.73	11.10	1	Slanted-straight
14	3.29	3	3.31	4.46	2.16	14.28	18.3	10.26	2.7	6.64	12.61	2	Slanted-straight
15	1.72	2.1	6.24	6.44	6.04	21.45	22.07	20.83	2.87	6.24	6.3	1	Slanted-curve
16	3.07	3.6	5.17	5.76	4.58	15.65	15.97	15.34	3.57	7.24	11.59	1	Slanted-curve
17	2.5	3.3	5.83	6.07	5.6	17	17.58	16.42	3.34	8.52	8.3	1	Slanted-curve
18	3.52	3.3	5.45	4.33	6.58	13.87	14.24	13.51	4.04	9.33	13.73	1	Slanted-curve
19	4.5	6.3	7.33	7.25	7.42	15.84	15.34	16.35	4.93	6.44	10.59	2	Slanted-curve
20	3.23	3.9	5.16	4.02	6.31	17.71	18.43	16.99	3.68	8.44	12.55	1	Slanted-curve

Cont. Table I.1. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Malay males.

No.	Incisive foramen LP ϕ	Incisive foramen MD ϕ	Nasal foremen ϕ	Right nasal ϕ	Left nasal ϕ	IC length	Right IC length	Left IC length	IC width	Bone thickness	Incisive Foramen location	No. channels	Course and direction
21	4.38	3	2.68	2.68	2.68	16.46	17.84	15.09	2.91	6.5	10.72	1	Slanted-curve
22	3.27	4.2	4.81	5.32	4.3	14.29	15.18	13.4	3.46	5.26	8.78	1	Slanted-curve
23	4.12	5.7	11.39	11.68	11.1	12.45	9.84	15.06	7.05	7.51	12.9	1	Slanted-straight
24	3.48	3	5.07	8.08	7.13	20.08	20.16	20	4.42	7.72	10.56	2	Slanted-straight
25	2.9	3.9	3.79	4.08	3.5	14.15	14.7	13.6	2.72	5.36	4.97	1	Slanted-curve

- a. Incisive foramen dimension labio-palatel
- b. Incisive foramen dimension mesio-distal
- c. Nasal foramen dimension
- d. Incisive canal length

Table I.2. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Malay females

No.	Incisive foramen LP ϕ^a	Incisive foramen MD ϕ^b	Nasal foremen ϕ^c	Right nasal ϕ	Left nasal ϕ	IC length	Right IC length	Left IC length	IC width	Bone thickness	Incisive Foramen location	No. channels	Course and direction
1	5.1	5.21	2.42	2.95	1.9	8.14	7.93	8.36	4.23	7.78	16.56	1	slanted-curve
2	3.17	5.4	5.06	5.03	5.1	4.51	4.84	4.18	3.73	7.49	17.72	1	Slanted-straight
3	2.43	1.5	3.9	5.13	2.68	17.14	17.78	16.51	2.64	8.92	16.42	2	Slanted-curve
4	2.82	3.3	6.22	5.51	6.93	16.12	16.15	16.1	4.18	7.42	9.99	1	Slanted-curve
5	1.38	2.7	3.52	1.53	5.51	11.5	10.76	12.24	1.99	8.84	11.19	2	Slanted-straight
6	3.1	3.01	3.66	3.42	3.91	9.49	9.12	9.87	3.1	8.29	13.65	1	Slanted-curve
7	2.27	3	3.61	4.04	3.19	9.68	9.67	9.7	2.35	7.36	13.15	1	Slanted-curve
8	2.47	3	3.59	3.95	3.23	17.31	16.99	17.63	2.34	7.38	13.02	1	Slanted-curve
9	2.15	3.3	4.41	4.33	4.5	9.55	9.62	9.49	2.66	7.08	11.19	2	Slanted-straight
10	2.76	3.3	2.73	3.76	1.7	12.63	12.79	12.48	2.45	6.44	11.57	1	Slanted-curve
11	2.18	3.3	3.4	3.61	3.19	9.87	9.68	10.06	2.68	6.28	7.27	1	Slanted-straight
12	1.29	2.7	3.89	4.02	3.76	10.45	10.08	10.82	2.12	9.02	18.45	1	Slanted-curve
13	2.5	3	6.67	7.57	5.77	14.66	14.9	14.43	4.12	9.54	14.38	1	Slanted-straight
14	3.08	3.6	6.02	6.91	5.13	14.58	15.15	14.01	4.45	6.06	10.88	1	Slanted-curve
15	1.96	4.2	5.46	4.95	5.98	22.72	23.24	22.2	3.07	7.89	12.53	1	Slanted-curve
16	3.14	4.5	5.68	5.47	5.89	9.8	9.58	10.02	3.72	6.09	14.35	2	Slanted-curve
17	2.57	3.6	3.98	4.97	3	12.09	13.6	10.59	2.86	7.75	13.98	2	Slanted-curve
18	2.8	3.3	6.12	6.36	5.89	15.53	16.89	14.17	3.68	7.1	15.3	1	Slanted-curve

Cont. Table I.2. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Malay females.

No.	Incisive foramen LP ϕ	Incisive foramen MD ϕ	Nasal foremen ϕ	Right nasal ϕ	Left nasal ϕ	IC length	Right IC length	Left IC length	IC width	Bone thickness	Incisive Foramen location	No. channels	Course and direction
19	1.96	3.6	3.64	3.24	4.04	11.67	12.73	10.62	2.82	7.01	13.74	1	Slanted-curve
20	3.57	3.3	6.61	7.69	5.53	20	20.81	19.19	4.22	5.11	8.6	1	Slanted-curve
21	3.42	4.2	3.25	3.42	3.09	14.83	15.21	14.46	3.37	6.69	9.97	1	Slanted-curve
22	2.34	3.6	4.71	4.3	5.13	12.55	12.57	12.53	2.67	4.36	11.07	1	Slanted-curve

- a. Incisive foramen dimension labio-palatel
- b. Incisive foramen dimension mesio-distal
- c. Nasal foramen dimension
- d. Incisive canal length

Table I.3. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Chinese males.

No.	Incisive foramen LP ϕ^a	Incisive foramen MD ϕ^b	Nasal foremen ϕ^c	Right nasal ϕ	Left nasal ϕ	IC length	Right IC length	Left IC length	IC width	Bone thickness	Incisive Foramen location	No. channels	Course and direction
1	4.2	2.7	4.56	4.24	4.88	14.61	14.61	14.61	3.99	8.85	12.61	1	Slanted-straight
2	2.09	3	10.01	10.03	9.99	15.85	16.32	15.38	5.22	8.59	16.27	1	Vertical-straight
3	2.92	3.6	11.69	9.42	13.97	30.24	28.77	31.71	5.65	12.18	12.67	2	Slanted-curve
4	3.01	3.3	7.21	6.98	7.45	18.51	18.57	18.45	4.62	9.79	12.5	2	Slanted-curve
5	3.12	3	3.63	4.43	2.83	22.7	23.08	22.32	3.27	9.32	15.58	1	Slanted-curve
6	1.6	3	4.47	3.42	5.53	13.1	10.91	15.3	2.54	8.73	14.83	1	Slanted-curve
7	4.8	6	8.94	9.02	8.86	18.83	19.48	18.19	6.2	8.92	13.7	2	Slanted-curve
8	2.68	4.5	5.45	4.84	6.07	16.81	20.68	12.94	4	6.22	8.45	1	Slanted-curve
9	2.68	4.2	3.9	3.51	4.3	19.13	19.86	18.4	3.08	8.79	9.62	1	Slanted-curve
10	3.16	2.7	7.44	7.8	7.08	17.43	18.46	16.41	4.84	9.58	12.2	1	Slanted-curve
11	2.76	4.2	6.92	5.92	7.92	11.77	11.28	12.26	3.87	8.47	12.48	1	Slanted-straight
12	3.56	3	7.34	7.57	7.11	18.84	19.31	18.37	4.94	9.51	14.08	1	Slanted-straight
13	1.28	2.7	6.65	8.32	4.99	18.56	20.41	16.71	3.18	7.15	8.61	3	Slanted-straight
14	2.7	2.7	9.91	12.18	7.65	22.93	23	22.86	5.49	9.81	12.33	1	Slanted-curve
15	3.58	3.6	7.47	6.66	8.28	18.41	21.03	15.79	5.49	4.2	6.17	2	Slanted-straight
16	3.76	2.4	6.26	5.82	6.71	21.53	21.43	21.63	4.67	7.75	15	1	Slanted-curve
17	1.56	3	3.73	3.42	4.04	10.64	10.84	10.45	2.68	8.51	13.65	2	Slanted-straight
18	3.09	4.5	14.15	14.09	14.22	18.02	18.97	17.08	7.1	9.11	14.47	1	Slanted-curve

Cont. Table I.3. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Chinese males

No.	Incisive foramen LP ϕ^a	Incisive foramen MD ϕ^b	Nasal foremen ϕ^c	Right nasal ϕ	Left nasal ϕ	IC length	Right IC length	Left IC length	IC width	Bone thickness	Incisive Foramen location	No. channels	Course and direction
19	2.97	4.5	7.57	7.74	7.41	24.48	24.98	23.98	4.72	8.93	11.05	1	Slanted-straight
20	2.57	2.4	2.14	1.7	2.58	14.88	15.75	14.01	2.09	6.57	9.55	1	Slanted-straight
21	2.52	4.2	2.34	3.19	1.5	18.47	19.42	17.53	2.27	7.24	8.17	1	Slanted-straight
22	2.95	2.7	4.57	5.11	4.04	15.68	16.35	15.02	3.04	6.26	8	1	Slanted-straight
23	2.67	2.7	8.12	7.67	8.58	15.71	15.92	15.5	4.73	4.28	5.77	2	Slanted-straight

a. Incisive foramen dimension labio-palatel

b. Incisive foramen dimension mesio-distal

c. Nasal foramen dimension

d. Incisive canal length

Table I.4. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Chinese females.

No.	Incisive foramen LP ϕ^a	Incisive foramen MD ϕ^b	Nasal foremen ϕ^c	Right nasal ϕ	Left nasal ϕ	IC length	Right IC length	Left IC length	IC width	Bone thickness	Incisive Foramen location	No. channels	Course and direction
1	2.69	3.60	8.97	6.44	11.50	23.97	16.24	31.7	5.22	7.95	10.96	2	Slanted-curve
2	0.95	1.5	2.55	2.16	2.95	5.93	6.07	5.79	1.50	7.83	16.27	2	Slanted-straight
3	1.43	1.8	9.85	6.58	13.12	22.05	17.47	26.63	4.51	9.84	12.92	1	Slanted-straight
4	2.38	2.4	9.03	9.81	8.25	11.42	12.08	10.77	4.3	6.67	16.36	1	Slanted-straight
5	1.6	2.7	5.92	5.66	6.18	20.04	21	19.09	3.28	6.25	12.68	1	Slanted-straight
6	1.81	2.4	2.5	2.58	2.42	13.6	13.98	13.23	2.17	8.84	10.59	1	Slanted-straight
7	2	2.4	7.52	7.78	7.26	15.51	18.19	12.84	4.38	7.54	14.5	2	Vertical-curve
8	1.93	4.2	5.14	2.7	7.59	15.22	14.86	15.58	3.28	5.1	3.45	1	Slanted-curve
9	2.57	3.9	5.19	5.41	4.97	19.97	20.69	19.25	3.36	8.98	16.86	2	Slanted-curve
10	1.71	3.3	3.21	4.24	2.18	17.34	18.8	15.88	2.4	7.9	10.97	2	Slanted-curve
11	3.73	5.1	3.59	4.18	3	18.83	19.48	18.18	3.4	5.41	13.1	2	Slanted-curve
12	2.75	3.6	15.6	4.26	7.16	15.6	14.42	16.78	4.03	7.16	6.83	2	Slanted-straight
13	2.27	3.9	5.43	5.1	5.77	12.23	12.62	11.84	3.93	6.2	7.39	2	Slanted-curve
14	2.28	2.1	11	12.73	9.27	18.07	20.44	15.71	6.14	6.28	15.38	1	Vertical-curve
15	2.37	3.9	7.49	7.16	7.82	15.63	16.98	14.28	4.49	6.58	10.36	2	Slanted-curve
16	2.56	3	3.61	2.85	4.37	16.92	17.08	16.77	2.83	6.49	11.95	2	Slanted-curve
17	2.02	3.3	5.19	4.97	5.41	16.42	15.91	16.94	2.82	6.83	12.91	1	Slanted-straight
18	2.76	3.9	6.48	6.8	6.16	12.14	13.55	10.74	3.77	3.92	4.58	1	Slanted-curve

Cont. Table I.4. Measurements of the incisive canal structure, number of channels at the middle of the canal, course and direction of the canal and the anterior bone thickness in Chinese females

No.	Incisive foramen LP ϕ^a	Incisive foramen MD ϕ^b	Nasal foremen ϕ^c	Right nasal ϕ	Left nasal ϕ	IC length	Right IC length	Left IC length	IC width	Bone thickness	Incisive Foramen location	No. channels	Course and direction
19	3.21	4.8	9.32	7.65	11	15.72	14.99	16.45	5.89	5.65	10.78	2	Slanted-straight
20	3.5	4	9.53	10.06	9	13.87	14.76	12.98	5.28	4.98	8.97	2	Slanted-curve
21	3.4	3.9	6.07	5.91	6.24	18.3	18.23	16.42	5.25	6.37	10.77	2	Slanted-straight
22	1.96	2.7	2.88	2.58	3.19	17.32	18.23	16.42	2.15	8.08	15.15	1	Slanted-curve
23	4.1	5.7	7.78	9.57	6	16.26	17.65	14.87	5.44	5.66	10.78	2	Slanted-curve
24	3.43	4.2	2.83	3.09	2.58	16.88	18	15.76	2.98	5.63	8.55	1	Slanted-curve

a. Incisive foramen dimension labio-palatel

b. Incisive foramen dimension mesio-distal

c. Nasal foramen dimension

d. Incisive canal length

Table I.5. Measurement of the incisive canal dimensions and bone thickness for the reliability test (Intraclass correlation)

Variable	No.	Original reading	Second reading	Third reading
Incisive foramen diameter (LabioPalatal)	1	3.35	3.37	3.09
	2	2.99	2.85	2.91
	3	1.72	2.3	2.29
	4	2.76	2.49	2.24
	5	2.15	1.28	1.71
	6	5.1	4.22	4.08
	7	4.2	3.42	3.6
	8	1.6	2.29	2.04
	9	2.37	2.99	2.77
	10	3.56	2.65	2.91
Incisive foramen diameter (Mesio-distal)	1	3.3	3	2.7
	2	3.6	3	4.2
	3	2.1	2.4	2.7
	4	3.3	3.3	3.6
	5	3.3	1.28	1.71
	6	5.21	4.22	4.08
	7	2.7	3.42	3.6
	8	2.7	2.29	2.04
	9	3.9	2.99	2.77
	10	3	2.65	2.91
Nasal foramen diameter (Labio-palatal)	1	12.96	13.27	12.79
	2	5.2	3.57	3.7
	3	6.24	5.71	5.85
	4	2.73	3.63	3.51
	5	4.41	4.93	4.6
	6	2.42	1.6	1.51
	7	4.56	4.56	4.25
	8	5.92	5.32	5.79
	9	7.49	6.88	7.2
	10	7.34	8.12	7.08
Incisive canal length	1	15.71	17.79	17.66
	2	17.56	18.14	18.76
	3	21.45	19.93	19.87
	4	12.63	13.41	13.11
	5	9.55	19.69	20.35
	6	8.14	8.8	8.62
	7	14.61	15.27	15.72
	8	20.04	21.26	21.15
	9	15.63	15.77	15.6
	10	18.84	18.46	18.86

Cont Table I.5. measurement of the incisive canal dimensions and bone thickness for the reliability test (Intraclass correlation)

Variable	No.	Original reading	Second reading	Third reading
Incisive canal width	1	6.26	6.29	6.3
	2	3.16	2.77	2.78
	3	2.87	2.99	3.01
	4	2.45	2.62	2.49
	5	2.66	3.21	3.46
	6	4.23	3.43	3.4
	7	3.99	3.39	3.46
	8	3.28	3.38	3.45
	9	4.49	4.49	4.54
	10	4.94	4.79	4.46
Anterior maxillary bone thickness	1	9.48	9.72	9.93
	2	7.93	7.99	7.95
	3	6.24	5.70	5.71
	4	6.44	6.51	6.55
	5	7.08	7.4	6.94
	6	7.78	7.76	7.84
	7	8.85	8.73	8.9
	8	6.25	6.63	6.86
	9	6.58	6.79	6.63
	10	9.51	10.18	10.07
Incisive foramen location	1	14.71	13.69	14.33
	2	14.69	14.34	14.6
	3	6.3	6.64	6.40
	4	11.57	11.27	11.33
	5	11.19	10.03	10.26
	6	16.56	15.88	15.63
	7	12.61	11.77	12.55
	8	12.68	12.68	12.48
	9	10.36	10.77	10.62
	10	14.08	14.06	13.86

Table I.6. Incisive canal course and direction and number of the channel at the middle portion of the canal for reliability test (Kappa test)

Variable	No.	Original reading	Second reading	Third reading
Incisive canal course and direction	1	Slanted-straight	Slanted-straight	Slanted-straight
	2	Slanted-curve	Slanted-curve	Slanted-curve
	3	Slanted-curve	Slanted-curve	Slanted-curve
	4	Slanted-curve	Slanted-curve	Slanted-curve
	5	Slanted-straight	Slanted-straight	Slanted-straight
	6	Slanted-curve	Slanted-curve	Slanted-curve
	7	Slanted-straight	Slanted-straight	Slanted-straight
	8	Slanted-straight	Slanted-straight	Slanted-straight
	9	Slanted-curve	Slanted-curve	Slanted-curve
	10	Slanted-straight	Slanted-straight	Slanted-straight
NO. of channel at the middle portion of the canal	1	2	2	2
	2	1	1	1
	3	1	1	1
	4	1	1	1
	5	2	2	2
	6	1	1	1
	7	2	2	2
	8	1	1	1
	9	2	2	2
	10	1	1	1