

APPENDIX

The values of the initial dimensions and generated force of untreated, 1, 2 and 3-time treated elastomeric ligatures were shown in Tables A.1 – A.5 respectively:

มหาวิทยาลัยเชียงใหม่
Chiang Mai University

Table A.1 The data of the initial outside diameter (OD), inside diameter (ID), and wall thickness (WT) of four groups of elastomeric ligatures.

n	Gr I			Gr II			Gr II			Gr IV		
	OD (mm.)	ID (mm.)	WT (mm.)	OD (mm.)	ID (mm.)	WT (mm.)	OD (mm.)	ID (mm.)	WT (mm.)	OD (mm.)	ID (mm.)	WT (mm.)
1	3.1	1.3	0.9	3.1	1.1	1.0	3.0	1.2	0.9	3.2	1.1	1.0
2	3.1	1.2	1.0	3.1	1.1	1.0	3.1	1.2	1.0	3.1	1.1	1.0
3	3.1	1.2	0.9	3.1	1.2	.9	3.1	1.1	1.0	3.2	1.2	1.0
4	3.1	1.2	0.9	3.1	1.1	1.0	3.1	1.2	1.0	3.0	1.2	0.9
5	3.1	1.2	1.0	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.1	1.1
6	3.1	1.1	1.0	3.1	1.2	1.0	3.1	1.1	1.0	3.2	1.1	1.1
7	3.1	1.1	1.0	3.0	1.2	0.9	3.2	1.0	1.1	3.1	1.1	1.0
8	3.2	1.2	1.0	3.1	1.1	1.0	3.2	1.2	1.0	3.1	1.1	1.0
9	3.1	1.2	0.9	3.1	1.2	0.9	3.2	1.2	1.0	3.0	1.2	0.9
10	3.1	1.1	1.0	3.0	1.2	0.9	3.2	1.2	1.0	3.2	1.2	1.0
11	3.1	1.1	1.0	3.1	1.3	0.9	3.1	1.2	1.0	3.1	1.1	1.0
12	3.1	1.1	1.0	3.1	1.2	1.0	3.1	1.2	1.0	3.2	1.0	1.1
13	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.1	1.0	3.2	1.1	1.1
14	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.2	1.0	3.2	1.2	1.0
15	3.1	1.1	1.0	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.2	1.0
16	3.0	1.2	0.9	3.2	1.2	1.0	3.1	1.2	1.0	3.1	1.1	1.0
17	3.0	1.2	0.9	3.1	1.1	1.0	3.0	1.2	0.9	3.1	1.1	1.0
18	3.1	1.1	1.0	3.1	1.1	1.0	3.1	1.2	1.0	3.2	1.1	1.1
19	3.1	1.1	1.0	3.1	1.1	1.0	3.1	1.1	1.0	3.1	1.1	1.0
20	3.1	1.1	1.0	3.1	1.2	1.0	3.1	1.1	1.0	3.1	1.1	1.0
21	3.1	1.1	1.0	3.1	1.1	1.0	3.1	1.1	1.0	3.1	1.1	1.0
22	3.1	1.1	1.0	3.1	1.2	1.0	3.2	1.2	1.0	3.2	1.1	1.1
23	3.0	1.2	0.9	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.2	1.0
24	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.1	1.1	3.2	1.2	1.0
25	3.1	1.2	1.0	3.1	1.1	1.0	3.2	1.2	1.0	3.2	1.1	1.0
26	3.1	1.1	1.0	3.1	1.2	1.0	3.0	1.2	0.9	3.1	1.1	1.0
27	3.0	1.2	0.9	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.2	1.0
28	3.1	1.1	1.0	3.0	1.2	0.9	3.1	1.1	1.0	3.2	1.0	1.1
29	3.1	1.1	1.0	3.1	1.1	1.0	3.2	1.2	1.0	3.2	1.2	1.0
30	3.0	1.2	0.9	3.1	1.2	1.0	3.2	1.0	1.1	3.2	1.2	1.0

Table A.2 The data of the force at seven time intervals of untreated elastomeric ligatures.

n	Force (gm.)						
	Initial	1 st day	2 nd day	7 th day	14 th day	21 st day	28 th day
1	607	166	172	114	68	38	34
2	594	166	150	111	66	41	30
3	625	172	170	101	71	38	32
4	625	160	156	116	66	37	40
5	630	154	159	111	66	43	34
6	637	166	155	107	59	34	26
7	606	175	160	111	70	36	30
8	652	185	170	95	75	32	30
9	632	179	166	91	59	40	24
10	641	158	169	100	65	33	28
11	602	179	169	112	57	30	32
12	639	178	166	94	56	50	28
13	635	171	167	97	61	34	28
14	638	182	176	111	63	37	32
15	641	163	170	93	69	34	24
16	617	169	182	94	65	36	24
17	643	190	164	99	59	37	28
18	660	195	166	95	67	37	28
19	642	194	174	100	72	40	28
20	655	192	170	109	60	40	20
21	641	166	164	101	65	33	26
22	660	163	168	106	68	34	26
23	650	163	178	109	69	33	22
24	645	178	173	107	63	41	26
25	652	166	165	98	67	41	24
26	620	191	156	94	61	39	30
27	644	194	162	100	75	44	24
28	646	173	149	99	59	31	28
29	632	185	146	93	77	35	30
30	653	220	154	101	69	35	30

Table A.3 The data of the force at seven time intervals of 1-time treated elastomeric ligatures.

n	Force (gm.)						
	Initial	1 st day	2 nd day	7 th day	14 th day	21 st day	28 th day
1	623	157	148	105	84	31	30
2	634	174	146	105	68	40	28
3	634	166	137	120	74	41	30
4	606	161	148	105	63	30	28
5	634	166	155	102	68	46	28
6	615	161	158	99	63	29	24
7	634	184	163	105	67	33	22
8	624	186	161	93	72	31	30
9	620	170	155	99	61	29	22
10	634	189	148	89	63	33	24
11	639	184	148	97	66	46	24
12	636	172	154	96	66	38	22
13	643	167	181	90	63	41	26
14	656	167	139	99	63	47	26
15	636	172	160	101	66	29	30
16	663	172	142	85	61	29	26
17	655	167	163	95	58	41	24
18	620	163	136	99	55	38	24
19	605	155	163	113	55	41	24
20	639	167	175	111	59	27	32
21	627	157	145	107	84	27	34
22	663	190	157	104	63	27	26
23	643	175	157	89	63	39	24
24	619	199	142	87	59	38	30
25	617	176	145	99	67	38	26
26	624	163	142	99	59	44	26
27	644	181	154	103	53	32	26
28	598	152	139	100	67	38	28
29	631	158	150	99	61	43	30
30	633	169	151	98	60	28	30

Table A.4 The data of the force at seven time intervals of 2-time treated elastomeric ligatures.

n	Force (gm.)						
	Initial	1 st day	2 nd day	7 th day	14 th day	21 st day	28 th day
1	620	166	160	99	80	31	30
2	606	172	160	95	75	29	26
3	591	182	172	96	70	28	26
4	596	166	165	95	73	30	32
5	601	154	153	97	70	40	38
6	613	180	157	87	62	27	30
7	605	168	154	105	64	27	24
8	613	195	162	99	57	27	34
9	600	178	147	91	61	34	30
10	620	182	153	79	61	31	28
11	593	164	162	79	63	29	32
12	604	184	154	73	62	35	28
13	602	179	151	105	65	34	28
14	598	156	149	85	57	45	26
15	611	152	151	100	63	42	28
16	605	177	144	91	77	37	28
17	601	174	153	97	68	35	28
18	579	165	149	99	62	33	28
19	598	166	153	87	64	35	28
20	596	157	135	107	59	41	32
21	606	188	133	94	66	35	30
22	593	177	141	95	62	31	32
23	600	160	143	105	65	30	34
24	608	161	151	97	59	32	30
25	603	161	135	100	59	35	32
26	592	158	165	105	71	47	30
27	575	187	137	117	58	36	30
28	613	157	141	101	62	39	34
29	600	174	143	113	62	30	34
30	600	152	159	97	62	48	38

Table A.5 The data of the force at seven time intervals of 3-time treated elastomeric ligatures.

n	Force (gm.)						
	Initial	1 st day	2 nd day	7 th day	14 th day	21 st day	28 th day
1	599	187	172	111	61	36	24
2	593	167	158	107	62	36	22
3	580	167	143	129	59	32	26
4	583	153	145	109	67	28	30
5	593	183	154	110	69	44	30
6	597	187	143	117	63	32	26
7	592	179	134	91	59	33	22
8	605	153	157	89	57	42	24
9	594	150	147	95	69	37	24
10	604	162	147	91	60	30	26
11	605	189	135	80	51	41	24
12	602	150	151	89	63	39	26
13	600	152	141	87	70	33	28
14	588	159	143	85	62	44	28
15	593	168	154	99	59	38	32
16	588	185	155	97	63	44	26
17	575	165	147	100	60	31	28
18	617	150	154	76	61	33	32
19	603	147	166	79	61	33	34
20	611	164	182	85	52	31	36
21	607	177	157	95	58	37	28
22	574	150	143	91	60	28	28
23	595	184	155	98	62	30	32
24	596	189	155	99	62	28	34
25	598	170	156	97	55	34	26
26	588	155	158	93	55	42	24
27	614	189	168	95	55	35	22
28	600	166	165	89	58	28	26
29	580	195	163	95	51	43	26
30	598	150	157	91	59	34	26

CURRICULUM VITAE

Name Miss Saengdao Sawangwatana

Date of birth 13 June 1973

Place of birth Phitsanulok, Thailand

Institution attended:

1990-1996 Chiang Mai University,
Doctor of Dental Surgery

Position held and office:

1996-1997 Dental Section, The 3rd Army Hospital, Phitsanulok

1997-present Faculty of Dentistry, Naresuan University