



Dental Practice-Based Research Network
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DPBRN 17: Peri-operative Pain and Root Canal Therapy

Results: Overall and by Region

Date prepared: January 28, 2012

Table 1: Practitioners, Patients and Patient Visits by DPBRN Region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Practitioners	10	16.1	14	22.6	26	41.9	5	8.1	7	11.3	62	100.0
Patients	98	13.8	131	18.5	390	55.1	36	5.1	53	7.5	708	100.0
Number of visits required to complete obturation												
One Visit	68	69.4	101	77.1	355	91.0	21	58.3	14	26.4	559	79.0
Two Visits	29	29.6	29	22.1	35	9.0	15	41.7	35	66.0	143	20.2
Three Visits	1	1.0	1	0.8	0	0.0	0	0.0	4	7.6	6	0.8

The report is based on data received from 62 practitioners, a total of 708 patients, with 559 patients requiring one visit, 143 patients requiring two visits and 6 patients requiring three visits in order to complete obturation.

Data collection began for this study January, 2010 and ended November, 2010.

Dentist Survey – Before Treatment (Diagnosis)

1. Which tooth is to be treated with a root canal? (Universal numbering system: 01- 32)

Table 2: Tooth position* by DPBRN region

Tooth Position	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Anteriors												
Maxillary	10	10.2	15	11.5	25	6.4	4	11.1	1	1.9	55	7.8
Mandibular	3	3.1	4	3.1	11	2.8	1	2.8	1	1.9	20	2.8
Premolars												
Maxillary	24	24.5	31	23.7	66	16.9	5	13.9	11	20.8	137	19.4
Mandibular	9	9.2	13	9.9	36	9.2	1	2.8	1	1.9	60	8.5
First	12	12.2	19	14.5	29	7.4	4	11.1	5	9.4	69	9.8
Second	21	21.4	25	19.1	73	18.7	2	5.6	7	13.2	128	18.1
Molars												
Maxillary	28	28.6	38	29.0	124	31.8	17	47.2	18	34.0	225	31.8
Mandibular	23	23.5	30	22.9	128	32.8	8	22.2	20	37.7	209	29.5
First	26	26.5	41	31.3	148	38.0	19	52.8	22	41.5	256	36.2
Second	24	24.5	27	20.6	101	25.9	6	16.7	16	30.2	174	24.6
Third												

*Classification according to US Tooth numbers:

Anterior: maxillary (6, 7, 8, 9, 10, 11), mandibular (22, 23, 24, 25, 26, 27)

Premolar (4, 5, 12, 13, 20, 21, 28, 29), Molar (1-3, 14-16, 17-19, 30-32)

Premolar: maxillary (4-5, 12-13), mandibular (20-21, 28-29), 1st (5, 12, 21, 28), 2nd (4, 13, 20, 29)

Molar: maxillary (1-3,14-16), mandibular (17-19,30-32), 1st (3,14,19,30), 2nd (2,15,18,31), 3rd (1,16,17,32)

2. Does the tooth exhibit a radiolucency of endodontic origin (periradicular or apical)?

- a. Yes
 b. No

Table Q2: Tooth exhibits radiolucency by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Does the tooth exhibit a radiolucency of endodontic origin (periradicular or apical)?												
Yes	37	37.8	55	42.3	166	42.8	20	60.6	24	46.2	302	43.1
No	61	62.2	75	57.7	222	57.2	13	39.4	28	53.9	399	56.9

- Overall, 43% of the teeth receiving root canal treatment exhibited radiolucency. PDA was the only region showing a majority that exhibited a radiolucency of endodontic origin at about 61%.

Physical Exam

3. Was the tooth tender to percussion?

- a. Yes
 b. No

Table Q3: Tooth tender to percussion by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Was the tooth tender to percussion?												
Yes	64	65.3	88	67.2	250	64.1	25	71.4	33	62.3	460	65.1
No	34	34.7	43	32.8	140	35.9	10	28.6	20	37.7	247	34.9

- Overall, participants reported the tooth was tender to percussion in 65% of patients, ranging from 62% (SK) to 71% (PDA).

4. Was the tooth tender to biting pressure?

- a. Yes
 b. No

Table Q4: Tooth tender to biting pressure by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Was the tooth tender to biting pressure?												
Yes	63	64.3	84	64.1	233	59.9	16	45.7	27	50.9	423	59.9
No	35	35.7	47	35.9	156	40.1	19	54.3	26	49.1	283	40.1

- Overall, participants reported the tooth was tender to biting pressure in about 60% of patients with PDA being slightly lower at 46%.

5. Did the tooth respond to cold testing (if **no**, skip to question 7)?

- a. Yes
 b. No

Table Q5: Tooth responded to cold testing by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Did the tooth respond to cold testing?												
Yes	51	52.6	45	35.7	181	46.5	15	44.1	30	56.6	322	46.1
No	46	47.4	81	64.3	208	53.5	19	55.9	23	43.4	377	53.9

- The proportion of patients whose tooth responded to cold testing was 46% overall, ranging from 35% (FL/GA) to 57% (SK).

6. Was the response to cold testing prolonged compared to adjacent teeth?

- a. Yes
 b. No

Table Q6: Response to cold testing prolonged compared to adjacent teeth by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Was the response to cold testing prolonged compared to adjacent teeth?												
Yes	45	56.3	38	41.3	137	58.8	12	80.0	20	39.2	252	53.5
No	35	43.8	54	58.7	96	41.2	3	20.0	31	60.8	219	46.5

- The proportion of patients whose tooth experienced prolonged response to cold testing was about 54% overall, ranging from 39% (SK) to 80% (PDA).

7. What was the greatest probing depth for this tooth?

mm

Table Q7: Greatest probing depth for tooth by DPBRN region

	AL/MS	FL/GA	MN	PDA	SK	TOTAL
What was the greatest probing depth for this tooth?						
Mean	2.9	3.3	3.6	4.2	3.5	3.5
(SD)	0.9	1.2	1.5	1.8	1.3	1.4

- Overall, the greatest probing depth for the tooth averaged 3.5 mm, ranging from a mean of 2.9 mm in the AL/MS region to 4.2 mm in the PDA region.

8. What was the location of this greatest probing depth?

- a. Mesial
- b. Distal
- c. Buccal
- d. Lingual

Table Q8: Location of the greatest probing depth by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
What was the location of this greatest probing depth?												
Mesial only	30	30.6	24	18.5	134	37.6	12	34.3	13	24.5	213	31.7
Distal only	47	48.0	27	20.8	133	37.4	10	28.6	17	32.1	234	34.8
Buccal only	4	4.1	14	10.8	19	5.3	1	2.9	3	5.7	41	6.1
Lingual only	4	4.1	17	13.1	6	1.7	0	0.0	2	3.8	29	4.3
Mesial, distal	1	1.0	28	21.4	38	10.7	8	22.9	5	9.4	79	11.9
Mesial, buccal	0	0.0	3	2.3	4	1.1	2	5.7	1	1.9	10	1.5
Mesial, lingual	0	0.0	2	1.5	5	1.4	0	0.0	0	0.0	7	1.0
Distal, buccal	1	1.0	2	1.5	2	0.6	0	0.0	0	0.0	5	0.7
Distal, lingual	0	0.0	2	1.5	1	0.3	0	0.0	0	0.0	3	0.5
Buccal, lingual	1	1.0	1	0.8	0	0.0	0	0.0	0	0.0	2	0.3
Mesial, distal, buccal	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	1	0.2
Mesial, distal, lingual	0	0.0	0	0.0	1	0.3	1	2.9	0	0.0	2	0.3
Mesial, buccal, lingual	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	1	0.2
Mesial, distal, buccal, lingual	10	10.2	11	8.5	11	3.1	1	2.9	12	22.6	45	6.7

- The greatest probing depth involved only one surface for the majority of patients with mesial or distal surfaces being the most common at about 32% and about 35%, respectively.
- Overall, about seven percent of patients had an equally great probing depth on all four tooth surfaces listed.

Dentist Survey – Post-Treatment

Please answer these questions **after completing treatment for the day.**

1. Was bleeding present within the pulp chamber?

a. Yes

b. No

Table Q1: Bleeding present within pulp chamber by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Was bleeding present within the pulp chamber? (First Visit)												
Yes	57	58.2	62	47.3	197	50.5	16	44.4	28	52.8	360	50.9
No	41	41.8	69	52.7	193	49.5	20	55.6	25	47.2	348	49.2
Was bleeding present within the pulp chamber? (Second Visit)												
Yes	1	3.3	0	0.0	0	0.0	1	6.7	6	15.4	8	5.4
No	29	96.7	29	100.0	35	100.0	14	93.3	33	84.6	140	94.6
Was bleeding present within the pulp chamber? (Third Visit)												
Yes	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0
No	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0

- Bleeding within the pulp chamber was present for about 51% of the patients seen on the first visit. Among patients who had a second visit, only 5% had bleeding within the pulp chamber.

2. What procedures were performed during this appointment? (mark all that apply)
- a. Pulpectomy and/or debridement of canal contents
 - b. Cleaning and shaping
 - c. Obturation

Table Q2: Procedures performed during appointment by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
What procedures were performed during this appointment? (Mark all that apply) (First Visit)												
Pulpectomy - debridement	98	100.0	106	80.9	368	94.4	35	97.2	48	90.6	655	92.5
Cleaning and shaping	84	85.7	123	93.9	363	93.1	23	63.9	46	86.8	639	90.3
Obturation	67	68.4	104	79.4	356	91.3	21	58.3	15	28.3	563	79.5
What procedures were performed during this appointment? (Mark all that apply) (Second Visit)												
Pulpectomy - debridement	1	3.5	1	3.6	5	14.7	1	7.7	6	15.4	14	9.8
Cleaning and shaping	20	66.7	23	76.7	27	77.1	11	84.6	26	66.7	107	72.8
Obturation	28	93.3	29	96.7	34	97.1	15	100.0	36	92.3	142	95.3
What procedures were performed during this appointment? (Mark all that apply) (Third Visit)												
Pulpectomy - debridement	0	0.0	0	0.0	N/A	N/A	N/A	N/A	1	25.0	1	16.7
Cleaning and shaping	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0
Obturation	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0

- On the first appointment, pulpectomy was the most common procedure performed at about 93% with about 80% of patients having obturation completed at this visit.
- The majority of patients (95%) who required a second appointment completed obturation at this visit, with cleaning and shaping the most common procedures performed at about 73%.
- Less than one percent of patients needed a third visit to complete obturation.

3. Did any of the following occur during treatment? (mark all that apply)
- Perforation (opening from chamber or root into bone)
 - One or more canals not negotiable within 2mm of radiographic apex
 - Inability to complete treatment due to discomfort during treatment
 - Separation of instrument in canal space
 - Inadvertent filing or file placement past the root apex
 - None of the above

Table Q3: Occurrences during treatment by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Did any of the following occur during treatment? (Mark all that apply) (First Visit)												
Perforation	0	0.0	1	0.8	4	1.0	0	0.0	0	0.0	5	0.7
Canals not negotiable	2	2.0	1	0.8	25	6.5	1	2.8	5	9.6	34	4.8
Inability to complete tx	0	0.0	1	0.8	0	0.0	0	0.0	0	0.0	1	0.1
Separation of instrument	0	0.0	1	0.8	7	1.8	0	0.0	2	3.9	10	1.4
Inadvertent filing	4	4.1	2	1.5	13	3.4	0	0.0	0	0.0	19	2.7
None of the above	92	93.9	125	95.4	340	87.9	35	97.2	45	84.9	637	90.4
Did any of the following occur during treatment? (Mark all that apply) (Second Visit)												
Perforation	0	0.0	0	0.0	2	5.7	0	0.0	0	0.0	2	1.4
Canals not negotiable	2	6.7	0	0.0	2	5.7	0	0.0	2	5.1	6	4.2
Inability to complete tx	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Separation of instrument	0	0.0	3	10.7	1	2.9	0	0.0	0	0.0	4	2.8
Inadvertent filing	1	3.5	0	0.0	3	8.6	0	0.0	1	2.6	5	3.5
None of the above	27	93.1	26	89.7	27	77.1	14	100.0	36	92.3	130	89.0
Did any of the following occur during treatment? (Mark all that apply) (Third Visit)												
Perforation	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0
Canals not negotiable	0	0.0	0	0.0	N/A	N/A	N/A	N/A	1	16.7	1	16.7
Inability to complete tx	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0
Separation of instrument	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0
Inadvertent filing	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0
None of the above	1	100.0	1	100.0	N/A	N/A	N/A	N/A	3	0.8	5	83.3

- The majority of participants selected "none of the above" occurrences for all three patient visits: 90% (first visit), 89% (second visit), and 83% (third visit).
- The most common issue that occurred during treatment was "canals not negotiable," regardless of first, second or third visits (about 5%, 4%, and about 17%, respectively).

4. In your opinion, was this procedure significantly more difficult than the typical root canal therapies you perform in your practice?
- a. Yes
- b. No

Table Q4: Procedure more difficult than typical root canal therapies by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
In your opinion, was this procedure significantly more difficult than the typical root canal therapies you perform in your practice? (First Visit)												
Yes	12	12.2	14	10.7	47	12.1	13	36.1	6	11.3	92	13.0
No	86	87.8	117	89.3	343	88.0	23	63.9	47	88.7	616	87.0
In your opinion, was this procedure significantly more difficult than the typical root canal therapies you perform in your practice? (Second Visit)												
Yes	4	13.3	7	23.3	9	25.7	1	6.7	10	25.6	31	20.8
No	26	86.7	23	76.7	26	74.3	14	93.3	29	74.4	118	79.2
In your opinion, was this procedure significantly more difficult than the typical root canal therapies you perform in your practice? (Third Visit)												
Yes	0	0.0	0	0.0	N/A	N/A	N/A	N/A	3	75.0	3	50.0
No	1	100.0	1	100.0	N/A	N/A	N/A	N/A	1	25.0	3	50.0

- For the first visit, the procedure was not considered to be more difficult than typical root canals for the majority of practitioners. For those reporting “significantly more difficult,” PDA had the highest percentage of patients (36%) out of all regions.
- Overall, most of the practitioners that indicated a second visit was required considered the procedure typical of root canal therapies in 79% of their patients.
- For the few patients requiring a third visit, only the SK region indicated that the procedure was significantly more difficult than usual occurring in 75% of their patients.

5. During the root canal procedure, what was your impression about the quality of the local anesthesia? (mark one that is representative of the entire procedure)
- Excellent, patient felt 'nothing'
 - Adequate, patient experienced non-painful sensations
 - Marginal, patient experienced some pain
 - Less than marginal, patient experienced a lot of pain

Table Q5: Impression about quality of the anesthesia by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
During the root canal procedure, what was your impression about the quality of the local anesthesia? (Mark all that apply) (First Visit)												
Excellent	74	75.5	93	71.0	261	66.9	23	63.9	19	41.3	470	67.1
Adequate	16	16.3	17	13.0	73	18.7	7	19.4	15	32.6	128	18.3
Marginal	7	7.1	19	14.5	56	14.4	5	13.9	10	21.7	97	13.8
Less than marginal	1	1.0	2	1.5	0	0.0	1	2.8	2	4.4	6	0.9
During the root canal procedure, what was your impression about the quality of the local anesthesia? (Mark all that apply) (Second Visit)												
Excellent	20	66.7	21	70.0	26	74.3	11	73.3	13	46.4	91	65.9
Adequate	9	30.0	6	20.0	6	17.1	1	6.7	8	28.6	30	21.7
Marginal	1	3.3	3	10.0	3	8.6	3	20.0	6	21.4	16	11.6
Less than marginal	0	0.0	0	0.0	0	0.0	0	0.0	1	3.6	1	0.7
During the root canal procedure, what was your impression about the quality of the local anesthesia? (Mark all that apply) (Third Visit)												
Excellent	1	100.0	1	100.0	0	0.0	0	0.0	2	100.0	4	100.0
Adequate	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Marginal	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Less than marginal	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

- For the first visit, practitioners considered anesthesia quality to be either excellent or adequate for 85% of their patients with SK reporting the lowest proportion of excellent/adequate quality of anesthesia, about 74% of their patients.
- For the second visit, overall proportions of impressions for anesthesia quality were similar to first visit reports, with the SK region again reporting the lowest percentage of excellent or adequate anesthesia of any region.
- All practitioners who recorded any patients needing a third visit described the quality of anesthesia as excellent for that visit.

6. Was there a draining sinus tract (fistula) associated with this tooth?

- a. Yes
 b. No

Table Q6: Draining sinus tract by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Was there a draining sinus tract (fistula) associated with this tooth? (First Visit)												
Yes	6	6.1	11	8.4	36	9.6	3	8.3	2	3.9	58	8.4
Was there a draining sinus tract (fistula) associated with this tooth? (Second Visit)												
Yes	0	0.0	0	0.0	1	2.9	0	0.0	2	5.1	3	2.0
Was there a draining sinus tract (fistula) associated with this tooth? (Third Visit)												
Yes	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

- For the first visit, a draining sinus tract associated with the tooth was present only 8% of the time overall, with SK reporting the lowest at about 4%.
- MN (about 3%) and SK (5%) were the only regions reporting a draining sinus tract associated with the tooth on the second visit.
- No draining sinus tracts associated with the tooth were reported on the third visit.

7. Did you identify swelling associated with this tooth?

- a. Yes
 b. No

Table Q7: Swelling identified by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Did you identify swelling associated with this tooth? (First Visit)												
Yes	7	7.1	22	16.8	29	7.7	3	8.3	5	9.6	66	9.5
Did you identify swelling associated with this tooth? (Second Visit)												
Yes	0	0.0	3	10.0	0	0.0	0	0.0	4	10.3	7	4.7
Did you identify swelling associated with this tooth? (Third Visit)												
No	1	100.0	1	100.0	0	0.0	0	0.0	4	100.0	6	100.0

- Overall participants reported swelling associated with the tooth at the first visit in about 10% of patients with the FL/GA region being slightly higher than other regions at about 17% of their patients.
- For the second visit, only FL/GA and SK regions reported patients having swelling associated with the tooth at 10% each with an overall total of about 5%.
- There was no swelling associated with the tooth reported on the third visit.

8. Were any of the following necessary to obtain adequate anesthesia to perform treatment? (mark all that apply)
- Second injection of the same type into the same location
 - Second injection of the same type into a slightly different location
 - Block anesthesia technique different from previously provided (e.g., Gow-Gates or PSA)
 - Periodontal ligament (PDL) injection
 - Intraosseous injection other than PDL (e.g., Stabident or X-tip)
 - Intrapulpal injection
 - None of the above

Table Q8: Procedures necessary to obtain anesthesia by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Were any of the following necessary to obtain adequate anesthesia to perform treatment? (Mark all that apply) (First Visit)												
2nd injection same location	43	43.9	24	18.3	18	4.6	5	13.9	6	11.8	96	13.6
2nd injection diff location	14	14.3	11	8.4	18	4.6	4	11.1	7	14.0	54	7.7
Block anesthesia	2	2.0	1	0.8	3	0.8	0	0.0	1	2.0	7	1.0
PDL injection	11	11.2	6	4.6	38	9.8	3	8.3	3	6.0	61	8.7
Intraosseous injection	1	1.0	0	0.0	9	2.3	0	0.0	0	0.0	10	1.4
Intrapulpal injection	16	16.3	22	16.8	60	15.4	7	19.4	5	10.0	110	15.6
None of the above	38	38.8	85	64.9	285	73.3	23	63.9	35	70.0	466	66.2
Were any of the following necessary to obtain adequate anesthesia to perform treatment? (Mark all that apply) (Second Visit)												
2nd injection same location	2	6.9	0	0.0	1	2.9	2	15.4	1	2.7	6	4.2
2nd injection diff location	0	0.0	0	0.0	1	2.9	3	23.1	1	2.7	5	3.5
Block anesthesia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
PDL injection	0	0.0	1	3.5	1	2.9	0	0.0	0	0.0	2	1.4
Intraosseous injection	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Intrapulpal injection	0	0.0	2	6.9	1	2.9	0	0.0	2	5.4	5	3.5
None of the above	28	93.3	28	93.3	32	91.4	12	80.0	35	89.7	135	90.6
Were any of the following necessary to obtain adequate anesthesia to perform treatment? (Mark all that apply) (Third Visit)												
None of the above	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0

- The majority of participants selected "none of the above" occurrences for all three visits: 66% of patients (first visit), about 91% of patients (second visit), and 100% of patients (third visit).
- For the first visit, intrapulpal injection and second injection same location were the most common procedures (16% and 14%, respectively). For the second visit, second injection of the same type into the same location was the most common procedure at 4%.
- Overall, the least common procedures performed for the first visit were block anesthesia (1.0%) and intraosseous injection (1.4%).

9. In your opinion, what is the likelihood that persistent pain will be present in 6 months' time? (mark one)
- Not likely (<0.1%)
 - Slightly likely (0.1-1%)
 - Moderately likely (1-5%)
 - Highly likely (>5%)

Table Q9: Likelihood pain will be present in 6 months by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
In your opinion, what is the likelihood that persistent pain will be present in 6 months' time? (Mark one) (First Visit)												
Not likely	78	79.6	100	76.3	245	63.0	28	77.8	32	60.4	483	68.3
Slightly likely	17	17.4	26	19.9	97	24.9	5	13.9	11	20.8	156	22.1
Mod. likely	3	3.1	4	3.1	42	10.8	3	8.3	9	17.0	61	8.6
Highly likely	0	0.0	1	0.8	5	1.3	0	0.0	1	1.9	7	1.0
In your opinion, what is the likelihood that persistent pain will be present in 6 months' time? (Mark one) (Second Visit)												
Not likely	18	60.0	16	53.3	22	62.9	13	86.7	22	56.4	91	61.1
Slightly likely	8	26.7	11	36.7	10	28.6	2	13.3	9	23.1	40	26.9
Mod. likely	3	10.0	3	10.0	3	8.6	0	0.0	7	18.0	16	10.7
Highly likely	1	3.3	0	0.0	0	0.0	0	0.0	1	2.6	2	1.3
In your opinion, what is the likelihood that persistent pain will be present in 6 months' time? (Mark one) (Third Visit)												
Not likely	1	100.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	1	16.7
Slightly likely	0	0.0	1	100.0	N/A	N/A	N/A	N/A	2	50.0	3	50.0
Mod. likely	0	0.0	0	0.0	N/A	N/A	N/A	N/A	2	50.0	2	33.3
Highly likely	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0

- The majority of practitioners felt that the likelihood of persistent pain was either unlikely or slightly likely for 90% of their patients (first visit), 88% of their patients (second visit) and about 67% of their patients (third visit). Practitioners felt that there was a high likelihood of persistent pain after the first and second visits for only 1% of their patients.

10. Do you think the patient may have been feigning pain to obtain a narcotic prescription? (mark one)
- a. No
- b. Possibly
- c. Yes

Table Q10: Patient feigning pain for narcotic prescription by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Do you think the patient may have been feigning pain to obtain a narcotic prescription? (mark one) (First Visit)												
No	98	100.0	131	100.0	385	98.7	36	100.0	52	98.1	702	99.2
Possibly	0	0.0	0	0.0	5	1.3	0	0.0	1	1.9	6	0.9
Yes	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you think the patient may have been feigning pain to obtain a narcotic prescription? (mark one) (Second Visit)												
No	30	100.0	30	100.0	35	100.0	15	100.0	39	100.0	149	100.0
Possibly	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yes	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Do you think the patient may have been feigning pain to obtain a narcotic prescription? (mark one) (Third Visit)												
No	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0
Possibly	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0
Yes	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0

- On the first visit, the vast majority of practitioners (99%) felt that the patient was not feigning pain to obtain a narcotic, with confidence increasing to 100% at the second and third visits.

11. Was the tooth obturated and the RCT completed today?
- a. Yes
- b. No

Table Q11: Tooth obturated and RCT completed today and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Was the tooth obturated and the RCT completed today? (First Visit)												
Yes	68	69.4	101	77.1	355	91.0	21	58.3	14	26.4	559	79.0
No	30	30.6	30	22.9	35	9.0	15	41.7	39	73.6	149	21.1
Was the tooth obturated and the RCT completed today? (Second Visit)												
Yes	29	96.7	29	96.7	35	100.0	15	100.0	35	10.3	143	96.0
No	1	16.7	1	16.7	0	0.0	0	0.0	4	66.7	6	4.0
Was the tooth obturated and the RCT completed today? (Third Visit)												
Yes	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0
No	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0

- Overall, the RCT procedure was completed for 79% of the patients on the first visit, 96% of remaining patients on the second visit, and all remaining patients on the third.

12. Was a permanent restoration placed in the access?

- a. Yes
 b. No

Table Q12: Permanent restoration placed in the access by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Was a permanent restoration placed in the access? (First Visit)												
Yes	21	21.4	33	25.2	149	39.6	12	33.3	8	15.1	223	32.1
Was a permanent restoration placed in the access? (Second Visit)												
Yes	4	13.3	18	60.0	20	57.1	7	46.7	27	69.2	76	51.0
Was a permanent restoration placed in the access? (Third Visit)												
Yes	0	0.0	1	100.0	N/A	N/A	N/A	N/A	3	75.0	4	66.7

- Overall, a permanent restoration was placed in the access on 32% of the patients on the first visit, 51% of remaining patients on the second visit, and 67% on the remaining patients who required a third visit.

13. Did the treatment have to be stopped because the tooth was not amenable to RCT (e.g., required an extraction)?

- a. Yes
 b. No

Table Q13: Treatment stopped because tooth was not amenable to RCT by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Did the treatment have to be stopped because the tooth was not amenable to RCT? (e.g., required an extraction) (First Visit)												
No	98	100.0	131	100.0	376	100.0	36	100.0	53	100.0	694	100.0
Did the treatment have to be stopped because the tooth was not amenable to RCT? (e.g., required an extraction) (Second Visit)												
No	30	100.0	30	100.0	35	100.0	15	100.0	39	100.0	149	100.0
Did the treatment have to be stopped because the tooth was not amenable to RCT? (e.g., required an extraction) (Third Visit)												
No	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0

- For all three visits, no treatment had to be stopped because the tooth was not amenable to RCT.

Patient Survey – Before Treatment

1. Are you fearful about today's appointment?

- a. Not at all
- b. A little
- c. Quite a lot
- d. Very much

Table Q1: Patient fearful about appointment by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Are you fearful about today's appointment?												
Not at all	35	36.5	61	46.6	117	30.3	17	47.2	21	39.6	251	35.8
A little	47	49.0	45	34.4	197	51.0	17	47.2	15	28.3	321	45.7
Quite a lot	6	6.3	10	7.6	39	10.1	2	5.6	8	15.1	65	9.3
Very much	8	8.3	15	11.5	33	8.6	0	0.0	9	17.0	65	9.3

- The majority of patients expressed very little fearfulness about the appointment, with the proportion of patients reporting little or no fear ranging from about 68% in the SK region to 94% in the PDA region.

2. I feel that the treatment outcome for my tooth will turn out (mark one):

- a. very good
- b. good
- c. fair
- d. poor

Table Q2: Patient opinion about outcome by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
I feel that the treatment outcome for my tooth will turn out (mark one):												
very good	72	74.2	98	74.8	237	61.2	21	58.3	28	52.8	456	64.8
good	23	23.7	32	24.4	143	37.0	13	36.1	21	39.6	232	33.0
fair	2	2.1	1	0.8	7	1.8	2	5.6	4	7.6	16	2.3
poor	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

- At nearly 98%, virtually all of the patients had favorable (good or very good) expectations about the outcome of the treatment.

3. How many days in the past week have you had tooth pain? Days (If no pain, please write "0".)

Table Q3: Number of days patient has had pain by DPBRN region

	AL/MS	FL/GA	MN	PDA	SK	TOTAL
How many days in the past week have you had tooth pain? (If no pain, please write "0".)						
Mean	3.1	3.3	4.0	2.5	3.3	3.6
(SD)	2.7	2.8	2.8	3.0	3.0	2.8

- Overall, the average number of days patients had pain was about 4.

4. Have you taken anything for the pain (over-the-counter or prescription medication, herbal, other) in the last 7 days?
- a. Yes
- b. No

Table Q4: Pain medication taken by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Have you taken anything for the pain (over-the-counter or prescription medication, herbal, other) in the last 7 days?												
Yes	59	60.8	76	58.0	239	64.1	14	38.9	29	54.7	417	60.4

- Overall, the majority of patients (60%) had taken something for pain with the lowest proportion of pain medication reported by patients in the PDA region (about 39%).

5. Pain quality (mark all that apply)

- a. none
- b. dull
- c. sharp
- d. aching
- e. throbbing
- f. burning
- g. shooting
- h. electric

Table Q5: Pain quality by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Pain quality (mark all that apply)												
none	7	8.3	5	5.3	22	6.6	0	0.0	2	5.3	36	6.3
dull	14	16.7	33	34.7	116	34.8	11	57.9	4	10.5	178	31.3
sharp	26	31.0	33	34.7	117	35.1	4	21.1	8	21.1	188	33.0
aching	38	45.2	44	46.3	178	53.5	12	63.2	14	36.8	286	50.3
throbbing	41	48.8	43	45.3	159	47.8	8	42.1	11	29.0	262	46.1
burning	3	3.6	2	2.1	11	3.3	1	5.3	4	10.5	21	3.7
shooting	16	19.1	15	15.8	82	24.6	3	15.8	23	60.5	139	24.4
electric	2	2.4	7	7.4	26	7.8	1	5.3	5	13.2	41	7.2

- Overall, pain was most commonly described as aching or throbbing (50% and 46%, respectively). Exceptions were dull pain reported by PDA (58%) shooting pain reported by SK (61%).

6. Does this pain? (mark all that apply)
- start all by itself for no known reason (spontaneous)
 - start after the tooth is used or irritated (provoked)

Table Q6: When does pain occur by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Does this pain? (mark all that apply)												
spontaneous	44	55.0	47	50.5	201	62.4	10	52.6	25	64.1	327	59.1
provoked	43	59.7	60	69.8	202	63.5	14	77.8	16	44.4	335	63.2

- Overall, 59% of patients described the pain as spontaneous and 63% described the pain starting after the tooth was used or irritated; the responses were not mutually exclusive.

7. What makes this pain worse? (mark all that apply)
- Nothing, never gets worse
 - Nothing, gets worse all by itself
 - Biting, chewing
 - Cold and/or hot food or drink
 - Stress

Table Q7: What makes pain worse by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
What makes this pain worse? (mark all that apply)												
nothing, never gets worse	9	11.4	5	5.2	18	5.4	1	5.3	4	10.5	37	6.6
nothing, gets worse by itself	22	27.9	30	31.3	118	35.4	6	31.6	12	31.6	188	33.3
biting, chewing	47	59.5	62	65.3	199	59.8	10	52.6	18	47.4	336	59.6
cold/hot food or drink	37	46.8	44	46.3	199	59.8	13	68.4	17	44.7	310	55.0
stress	5	6.3	6	6.3	30	9.0	2	10.5	4	10.5	47	8.3

- The most common reasons selected for “stimuli that makes the pain worse” were biting/chewing (about 60%) and cold/hot food or drink (55%). Stress and the response “never gets worse” were the least common choices for making the pain worse (8% and about 7%, respectively).

Please CIRCLE ONE NUMBER when answering questions #12 – 14 below.

12. In the past week, how much has tooth pain interfered with your daily activities rated on a 0 to 10 scale where 0 is "no interference" and 10 is "unable to carry on any activities"?

No interference **Unable to carry on any activities**

0 1 2 3 4 5 6 7 8 9 10

Table Q12: Inability to carry on daily activities due to pain by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
In the past week, how much has tooth pain interfered with your daily activities rated on a 0 to 10 scale where 0 is "no interference" and 10 is "unable to carry on any activities"?												
No interference (0)	50	51.6	79	61.7	196	51.0	24	68.6	27	50.9	376	54.0
Little (1-3)	26	26.8	23	18.0	99	25.8	5	14.3	13	24.5	166	23.8
Moderate (4-6)	10	10.3	14	10.9	57	14.8	4	11.4	10	18.9	95	13.6
Major/unable (7-10)	11	11.3	12	9.4	32	8.3	2	5.7	3	5.7	60	8.6

- Over one-half of patients (54%) reported that tooth pain did not interfere with daily activities; less than 9% indicated that pain was a major impediment (rated at least 7 on a scale of 0 to 10).

13. In the past week, how much has tooth pain interfered with your ability to take part in recreational, social and family activities where 0 is "no interference" and 10 is "unable to carry on any activities"?

No interference **Unable to carry on any activities**

0 1 2 3 4 5 6 7 8 9 10

Table Q13: Inability to carry on recreational activities due to pain by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
In the past week, how much has tooth pain interfered with your ability to take part in recreational, social and family activities where 0 is "no interference" and 10 is "unable to carry on any activities"?												
No interference (0)	59	60.8	86	68.3	231	60.0	27	77.1	34	64.2	437	62.8
Little (1-3)	18	18.6	19	15.1	82	21.3	3	8.6	7	13.2	129	18.5
Moderate (4-6)	8	8.3	9	7.1	43	11.2	2	5.7	9	17.0	71	10.2
Major/unable (7-10)	12	12.4	12	9.5	29	7.5	3	8.6	3	5.7	59	8.5

- Overall, about 63% of patients reported that tooth pain did not interfere with recreational, social and family activities with PDA having the highest at 77%.

17. During your entire life, have you smoked at least 100 cigarettes?

- a. Yes
 b. No (if **No**, skip to question #20)

Table Q17: Smoked at least 100 cigarettes by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
During your entire life, have you smoked at least 100 cigarettes?												
Yes	37	38.1	59	47.2	184	47.9	15	41.7	32	60.4	327	47.1

- Overall, almost one-half of patients had smoked at least 100 cigarettes in their lifetime, with the SK region reporting the highest proportion of patients with a history of smoking (60%).

18. Do you smoke cigarettes now?

- a. Yes
 b. No

Table Q18: Current smoker by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Do you smoke cigarettes now?												
Yes	17	25.8	19	18.5	61	23.8	3	18.8	15	34.9	115	23.8

- Almost 24% of all patients reported being current smokers, with the SK region having the highest at about 35%.

19. On average, how many cigarettes do you (or did you) usually smoke each day?

cigarettes

Table Q19: Number of cigarettes smoked daily by DPBRN region

	AL/MS	FL/GA	MN	PDA	SK	TOTAL
On average, how many cigarettes do you (or did you) usually smoke each day?						
Mean	8.9	10.6	10.7	11.4	9.7	10.3
(SD)	10.4	9.1	10.3	10.5	9.3	10.0

- For patients who were either active smokers or had a history of cigarette smoking reported an average of 10 cigarettes smoked per day.

20. Has a doctor ever told you that you had diabetes or high blood sugar? (For women, not during pregnancy.)
- a. Yes
- b. No

Table Q20: Diagnosed with diabetes or high blood sugar by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Has a doctor ever told you that you had diabetes or high blood sugar? (For women, not during pregnancy)												
Yes	14	14.9	12	9.6	47	12.4	4	11.4	6	11.3	83	12.1

- Overall, 12% of patients had received a diabetes diagnosis by a physician with the AL/MS region reporting the highest prevalence of patients having been diagnosed with diabetes (about 15%).

21. Your gender
- a. male
- b. female

Table Q21: Gender by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Your gender												
Male	38	39.6	62	48.8	143	37.1	19	52.8	27	50.9	289	41.4
Female	58	60.4	65	51.2	243	63.0	17	47.2	26	49.1	409	58.6

- Overall, a higher proportion of the patients were female (59%).

22. Your age in years

Table Q22: Age by DPBRN region

	AL/MS	FL/GA	MN	PDA	SK	TOTAL
Your age in years						
Mean	45.9	48.1	47.2	51.5	51.0	47.7
(SD)	11.9	13.2	13.1	11.1	13.6	13.0

- The overall average age of patients was about 48 years, being fairly consistent across all regions.

23. Your ethnicity

- a. Hispanic or Latino
- b. Not Hispanic or Latino

Table Q23: Ethnicity by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Your ethnicity												
Hispanic or Latino	0	0.0	22	17.1	5	1.3	1	2.8	1	1.9	29	4.2
Not Hispanic or Latino	93	100.0	107	83.0	374	98.7	35	97.2	52	98.1	661	95.8

- Only 4% of study patients self-identified as Hispanic or Latino ethnicity with FL/GA being the highest at 17%.

24. Your race

- a. White
- b. Black or African American
- c. American Indian or Alaska Native
- d. Asian
- e. Native Hawaiian or Pacific Islander
- f. Other (please specify) _____

Table Q24: Race by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Your race												
White	76	79.2	121	93.1	350	91.6	31	88.6	53	100.0	631	90.7
Black/African American	20	20.8	7	5.4	10	2.6	0	0.0	0	0.0	37	5.3
Am Indian/Alaska Native	0	0.0	1	0.8	8	2.1	0	0.0	0	0.0	9	1.3
Asian	0	0.0	1	0.8	8	2.1	4	11.4	0	0.0	13	1.9
Hawaiian/Pacific Islander	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	1	0.1
Other	0	0.0	0	0.0	5	1.3	0	0.0	0	0.0	5	0.7

- Over 90% of all study patients self-identified as being of white race and 5% as African American with AL/MS having the highest proportion of African Americans at 21%.

25. Do you have dental insurance or third party coverage?

- a. Yes
- b. No

Table Q25: Dental insurance by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Do you have dental insurance or third party coverage?												
Yes	75	78.1	85	64.9	323	83.7	36	100.0	52	98.1	571	81.3

- Overall, 81% of patients had dental insurance coverage ranging from about 65% (FL/GA) to 100% (PDA).

26. Indicate your household annual income

- a. < \$10,000 per year
- b. \$10,000 - \$29,000 per year
- c. \$30,000 - \$49,999 per year
- d. > \$50,000 per year

Table Q26: Income by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Indicate your household annual income												
<\$10,000/yr	3	3.2	6	5.0	15	4.0	0	0.0	2	3.8	26	3.9
\$10,000 - \$29,999/yr	6	6.5	16	13.2	47	12.6	1	2.9	9	17.0	79	11.7
\$30,000 - \$49,999/yr	24	25.8	24	19.8	70	18.8	5	14.3	17	32.1	140	20.7
>\$50,000/yr	60	64.5	75	62.0	241	64.6	29	82.9	25	47.2	430	63.7

- Overall, about 64% of patients reported a household annual income of at least \$50,000.

27. Indicate your highest level of education

- a. less than high school
- b. high school
- c. some college
- d. college degree
- e. advanced or graduate degree

Table Q27: Education by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Indicate your highest level of education												
less than high school	2	2.1	2	1.5	1	0.3	0	0.0	9	17.3	14	2.0
high school	17	17.9	21	16.0	62	16.1	1	2.9	16	30.8	117	16.8
some college	28	29.5	41	31.3	115	29.9	13	37.1	11	21.2	208	29.8
college degree	29	30.5	51	38.9	150	39.0	12	34.3	12	23.1	254	36.4
advanced or graduate degree	19	20.0	16	12.2	57	14.8	9	25.7	4	7.7	105	15.0

- Overall, 2% of patients reported having less than a high school education with SK being highest at 17%.
- Patients completing a college degree ranged from about 31% (SK) to 60% (PDA) with the overall average being 51%.

Patient Survey – Immediately After Treatment

1. How intense was your tooth pain **during** the root canal on a 0 to 10 scale, where 0 is "no pain" and 10 is "pain as bad as could be"?

No Pain						Pain as bad as could be				
0	1	2	3	4	5	6	7	8	9	10

Table Q1: Level of tooth pain during root canal by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
How intense was your tooth pain during the root canal on a 0 to 10 scale, where 0 is "no pain" and 10 is "pain as bad as could be"? (First Visit)												
None (0)	58	59.8	80	62.0	239	62.6	21	58.3	22	41.5	420	60.3
Mild (1-3)	32	33.0	36	27.9	121	31.7	12	33.3	20	37.7	221	31.7
Moderate (4-6)	4	4.1	9	7.0	15	3.9	1	2.8	4	7.6	33	4.7
Severe (7-10)	3	3.1	4	3.1	7	1.8	2	5.6	7	13.2	23	3.3
How intense was your tooth pain during the root canal on a 0 to 10 scale, where 0 is "no pain" and 10 is "pain as bad as could be"? (Second Visit)												
None (0)	18	60.0	15	50.0	22	64.7	9	64.3	19	50.0	83	56.9
Mild (1-3)	8	26.7	14	46.7	12	35.3	3	21.5	17	44.7	54	37.0
Moderate (4-6)	3	10.0	1	3.3	0	0.0	1	7.1	0	0.0	5	3.4
Severe (7-10)	1	3.3	0	0.0	0	0.0	1	7.1	2	5.3	4	2.7
How intense was your tooth pain during the root canal on a 0 to 10 scale, where 0 is "no pain" and 10 is "pain as bad as could be"? (Third Visit)												
None (0)	1	100.0	1	100.0	N/A	N/A	N/A	N/A	3	75.0	5	83.3
Mild (1-3)	0	0.0	0	0.0	N/A	N/A	N/A	N/A	1	25.0	1	16.7

- Immediately after treatment on the first visit, 60% of patients overall reported no tooth pain during the root canal with approximately 32% reporting pain categorized as mild (1 to 3 on a pain scale 0 to 10).
- For those requiring a second visit, patients reporting no pain was about 57% with 37% reporting pain as mild (categorized as 1 to 3 on a scale of 0 to 10).
- For the 6 patients requiring a third visit, 83% reported no pain during the procedure and about 17% reported pain categorized as mild on a scale of 0 to 10.

2. Please rate how numb your tooth felt during the root canal treatment (mark one).
- The tooth was not numb enough.
 - The tooth was numb enough.
 - The tooth was too numb.

Table Q2: Numbness of tooth during root canal by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Please rate how numb your tooth felt during the root canal treatment (mark one). (First Visit)												
Not numb enough	5	5.2	6	4.6	16	4.2	1	2.8	8	16.0	36	5.1
Numb enough	91	93.8	121	92.4	362	93.8	35	97.2	40	80.0	649	92.7
Too numb	1	1.0	4	3.1	8	2.1	0	0.0	2	4.0	15	2.1
Please rate how numb your tooth felt during the root canal treatment (mark one). (Second Visit)												
Not numb enough	3	10.0	1	3.5	0	0.0	2	14.3	3	9.4	9	6.5
Numb enough	27	90.0	27	93.1	34	100.0	12	85.7	27	84.4	127	91.4
Too numb	0	0.0	1	3.5	0	0.0	0	0.0	2	6.3	3	2.2
Please rate how numb your tooth felt during the root canal treatment (mark one). (Third Visit)												
Not numb enough	0	0.0	1	100.0	N/A	N/A	N/A	N/A	1	25.0	2	33.3
Numb enough	1	100.0	0	0.0	N/A	N/A	N/A	N/A	3	75.0	4	66.7
Too numb	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0

- Overall, approximately 93% of patients reported the tooth felt numb enough during the root canal treatment on the first visit with SK being slightly lower at 80%.
- Where a second visit was required, most patients (91%) reported the tooth was sufficiently numb during the root canal treatment, with SK being the lowest at 84%.
- Of the six patients requiring a third visit, four (about 67%) reported that the tooth was sufficiently numb during the root canal treatment.

3. Please rate how your feelings of fear compared to the actual experience.
- Does not apply – I was not afraid.
 - The experience was *better* than I feared.
 - The experience was about what I feared.
 - The experience was *worse* than what I feared.

Table Q3: Feelings of fear by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Please rate how your feelings of fear compared to the actual experience. (First Visit)												
Not Afraid	33	34.0	51	38.9	110	28.5	15	41.7	13	24.5	222	31.6
Better than I feared	56	57.7	67	51.2	229	59.3	17	47.2	24	45.3	393	55.9
About what I feared	7	7.2	13	9.9	44	11.4	3	8.3	15	28.3	82	11.7
Worse than I feared	1	1.0	0	0.0	3	0.8	1	2.8	1	1.9	6	0.9
Please rate how your feelings of fear compared to the actual experience. (Second Visit)												
Not Afraid	12	40.0	11	36.7	21	61.8	8	57.1	22	56.4	74	50.3
Better than I feared	14	46.7	14	46.7	9	26.5	4	28.6	13	33.3	54	36.7
About what I feared	4	13.3	5	16.7	4	11.8	2	14.3	2	5.1	17	11.6
Worse than I feared	0	0.0	0	0.0	0	0.0	0	0.0	2	5.1	2	1.4
Please rate how your feelings of fear compared to the actual experience. (Third Visit)												
Not Afraid	1	100.0	1	100.0	N/A	N/A	N/A	N/A	2	50.0	4	66.7
Better than I feared	0	0.0	0	0.0	N/A	N/A	N/A	N/A	2	50.0	2	33.3
About what I feared	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0
Worse than I feared	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0

- For the first visit, nearly 88% of patients overall were either unafraid (about 56%) or felt the experience was more positive than originally feared (about 32%). Of the remaining patients, nearly 12% indicated the visit was about what they had feared and less than one percent indicated the visit was worse than they feared.
- The second visit showed similar results overall as the first.

Patient Survey -- 1 Week after Treatment

1. How many days in the past week have you had tooth pain? Days (If no pain, please write "0")

Table Q1: Number of days had pain by DPBRN region and patient visits

	AL/MS	FL/GA	MN	PDA	SK	TOTAL
How many days in the past week have you had tooth pain? (If no pain, please write "0"). (First Visit)						
Mean	2.1	1.5	2.2	2.9	1.8	2.0
(SD)	2.2	2.1	2.5	2.5	2.4	2.4
How many days in the past week have you had tooth pain? (If no pain, please write "0"). (Second Visit)						
Mean	1.3	0.9	0.7	1.2	1.1	1.0
(SD)	1.7	1.7	1.5	2.2	2.4	1.9
How many days in the past week have you had tooth pain? (If no pain, please write "0"). (Third Visit)						
Mean	1.0	0.0	N/A	N/A	0.0	0.2
(SD)	N/A	N/A	N/A	N/A	0.0	0.4

- The average number of days that a patient experienced pain following the first visit for root canal treatment was 2 days, an average similar for all regions. The average number of days of pain afterward dropped to an average of 1 day for those patients requiring a second visit.

2. Have you taken anything for the pain (over-the-counter or prescription medication, herbal, other) in the last 7 days?

a. Yes

b. No

Table Q2: Taken medication for pain by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Have you taken anything for the pain (over-the-counter or prescription medication, herbal, other) in the last 7 days? (First Visit)												
Yes	70	73.7	57	43.9	200	61.2	19	55.9	17	32.1	363	56.8
Have you taken anything for the pain (over-the-counter or prescription medication, herbal, other) in the last 7 days? (Second Visit)												
Yes	17	58.6	7	25.0	10	31.3	2	15.4	4	10.3	40	28.4
Have you taken anything for the pain (over-the-counter or prescription medication, herbal, other) in the last 7 days? (Third Visit)												
Yes	1	100.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	1	16.7

- Overall, about 57% of patients took medication for pain in the week following the root canal procedure, ranging from 32% (SK) to about 74% (AL/MS).
- Only 28% of patients overall took pain medication after the second visit, again with AL/MS region and SK reporting the highest and lowest proportions, respectively.

9. About how many days in the past week have you been kept from your usual activities (work, school or housework, etc.) because of tooth pain? Days (If no pain, please write "0")

Table Q9: Number of days kept from usual activities by DPBRN region and patient visits

	AL/MS	FL/GA	MN	PDA	SK	TOTAL
About how many days in the past week have you been kept from your usual activities (work, school or housework, etc.) because of tooth pain? (If no pain, please write "0") (First visit)						
Mean	0.4	0.6	0.5	0.7	0.8	0.5
(SD)	0.9	1.4	1.1	1.0	2.0	1.2
About how many days in the past week have you been kept from your usual activities (work, school or housework, etc.) because of tooth pain? (If no pain, please write "0") (Second visit)						
Mean	0.0	0.2	0.2	1.5	0.0	0.2
(SD)	0.2	0.7	0.8	2.4	0.0	0.8
About how many days in the past week have you been kept from your usual activities (work, school or housework, etc.) because of tooth pain? (If no pain, please write "0") (Third visit)						
Mean	N/A	N/A	N/A	N/A	0.0	0.0
(SD)	N/A	N/A	N/A	N/A	0.0	0.0

- Overall, at 1 week post-treatment, patients reported losing an average of one-half day during the previous week due to tooth pain.

10. How much swelling did you experience in or around the root canal treated tooth?

- a. None
 b. A little
 c. Some
 d. A lot

Table Q10: Swelling around the tooth by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
How much swelling did you experience in or around the root canal treated tooth? (First Visit)												
None	44	46.3	68	52.3	141	41.4	12	34.3	37	69.8	302	46.2
A little	39	41.1	47	36.2	140	41.1	15	42.9	10	18.9	251	38.4
Some	11	11.6	8	6.2	45	13.2	7	20.0	4	7.6	75	11.5
A lot	1	1.1	7	5.4	15	4.4	1	2.9	2	3.8	26	4.0
How much swelling did you experience in or around the root canal treated tooth? (Second Visit)												
None	15	51.7	20	71.4	17	53.1	9	69.2	30	76.9	91	64.5
A little	10	34.5	6	21.4	12	37.5	4	30.8	9	23.1	41	29.1
Some	4	13.8	0	0.0	2	6.3	0	0.0	0	0.0	6	4.3
A lot	0	0.0	2	7.1	1	3.1	0	0.0	0	0.0	3	2.1
How much swelling did you experience in or around the root canal treated tooth? (Third Visit)												
None	1	100.0	1	100.0	N/A	N/A	N/A	N/A	4	100.0	6	100.0

- Overall, at 1 week post-treatment, nearly 85% of patients reported no or only a little swelling around the root canal treated tooth.
- For those patients needing a second visit for complete obturation, after the initial 1 week post-treatment visit almost 94% reported no or minimal swelling at the root canal treatment site.

11. Please rate how your feelings of fear about having a root canal compared to the actual experience.
- Does not apply – I was not afraid.
 - The experience was *better* than I feared.
 - The experience was about what I feared.
 - The experience was *worse* than what I feared.

Table Q11: Comparing the experience to fear by DPBRN region and patient visits

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Please rate how your feelings of fear about having a root canal compared to the actual experience. (First Visit)												
Was not afraid	31	32.6	50	38.8	98	28.7	13	38.2	14	26.4	203	31.6
Better than I feared	50	52.6	60	46.5	176	51.6	16	47.1	16	30.2	318	48.8
About what I feared	14	14.7	17	13.2	51	15.0	4	11.8	20	37.7	106	16.3
Worse than I feared	0	0.0	2	1.6	16	4.7	1	2.9	3	5.7	22	3.4
Please rate how your feelings of fear about having a root canal compared to the actual experience. (Second Visit)												
Was not afraid	11	37.9	9	32.1	16	50.0	6	46.2	16	42.1	58	41.4
Better than I feared	13	44.8	15	53.6	10	31.3	5	38.5	12	31.6	55	39.3
About what I feared	5	17.2	3	10.7	5	15.6	2	15.4	9	23.7	24	17.1
Worse than I feared	0	0.0	1	3.6	1	3.1	0	0.0	1	2.6	3	2.1
Please rate how your feelings of fear about having a root canal compared to the actual experience. (Third Visit)												
Was not afraid	0	0.0	1	100.0	N/A	N/A	N/A	N/A	2	50.0	3	50.0
Better than I feared	1	100.0	0	0.0	N/A	N/A	N/A	N/A	1	25.0	2	33.3
About what I feared	0	0.0	0	0.0	N/A	N/A	N/A	N/A	1	25.0	1	16.7
Worse than I feared	0	0.0	0	0.0	N/A	N/A	N/A	N/A	0	0.0	0	0.0

- At the 1 week post-treatment visit, comparing the actual experience to anticipated fear of the procedure, about 32% had not been afraid and almost 49% found the root canal experience better than anticipated.
- Among patients who required a second and/or third visit following the initial 1 week post-treatment visit, the majority of patients reported either no anticipated fear or that the procedure went better than initially feared, almost 81% first visit, and 83% second visit.