



Dental Practice-Based Research Network
www.DentalPBRN.org

DPBRN Study 13: Longitudinal study of questionable occlusal caries lesions

Results: Overall and by region - Tables

Date Prepared: April 27, 2012

Participants: Baseline (DPBRN 12 Former study 6)

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Practitioners	10	12.2	20	24.4	13	15.9	15	18.3	24	29.3	82	100.0
Patients	295	16.7	475	26.9	296	16.8	106	6.0	593	33.6	1,765	100.0
Lesions	425	15.9	693	26.0	438	16.4	169	6.3	946	35.4	2,671	100.0

These %s are row %s

Participants: Change of treatment

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Practitioners	5		10		8		2		18		43	
Patients	19	6.4	17	3.6	13	4.4	2	1.9	40	6.7	91	5.2
Lesions	20	4.7	19	2.7	17	3.9	2	1.2	49	5.2	107	4.0

These %s are of baseline - of top table

Participants: 24-month follow-up (study 13)

Practitioners	10		16		11		9		24		70	
Patients	212	71.9	193	40.6	113	38.2	22	20.8	486	82.0	1,026	58.1
Lesions	306	72.0	267	38.5	157	35.8	34	20.1	771	81.5	1,535	57.5

These %s are of baseline - of top table

Participants: ANY follow-up (change of treatment or 24-month follow-up)

Practitioners	10		18		12		10		24		74	
Patients	213	72.2	207	43.6	123	41.6	23	21.7	491	82.8	1,057	59.9
Lesions	307	72.2	285	41.1	170	38.8	35	20.7	779	82.3	1,576	59.0

These %s are of baseline - of top table

This report is of a follow-up study of 2,671 questionable occlusal caries (lesions) among 1,765 patients treated by 82 dentists.

Included in this report are data on 107 lesions, among 91 patients treated by 43 dentists for whom there was a change of treatment between 11/18/2008 and 12/13/2011, and on 1,535 lesions among 1,026 patients treated by 74 dentists between 5/12/09 and 1/24/12.

**Note: one lesion had 2 change of treatment forms.

Results from Change of Treatment Forms

1. Is the practitioner who is filling out this form today the same one who enrolled the questionable lesions on the original treatment date?

- a. Yes
b. No

Table Q1: Same practitioner by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Is the practitioner who is filling out this form today the same one who enrolled the questionable lesions on the original treatment date?												
Yes	21	100.0	19	100.0	15	88.2	1	50.0	35	71.4	91	84.3
No	0	0.0	0	0.0	2	11.8	1	50.0	14	28.6	17	15.7

**One lesion had 2 change of treatment forms

- Overall, 84% of practitioners were the same practitioner who enrolled the lesion(s).

2. Is this visit due to a problem with this specific tooth?

- a. Yes
b. No

Table Q2: Visit due to a problem with specific tooth by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Is this visit due to a problem with this specific tooth?												
Yes	11	52.4	14	73.7	3	37.5	0	0.0	5	10.2	33	33.3
No	10	47.6	5	26.3	5	62.5	2	100.0	44	89.8	66	66.7

- Overall, 33% of patients were being treated due to a problem with the specific tooth.

3. What was the original treatment plan of the tooth? (Please check all that apply)

- a. Monitor
b. Oral hygiene instruction
c. Applying/prescribing fluoride
d. Applying varnish
e. Sealant placement
f. Enameloplasty
g. Preventive Resin Restoration
h. Full Restoration

Table Q3: Original treatment plan by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
What was the original treatment plan of the tooth? (please check all that apply)												
Monitor	15	71.4	15	78.9	14	82.4	1	50.0	37	75.5	82	75.9
Oral Hyg Instr	7	33.3	4	21.1	2	11.8	1	50.0	33	67.3	47	43.5
Apply fluoride	4	19.0	2	10.5	1	5.9	0	0.0	16	32.7	23	21.3
Apply varnish	2	9.5	0	0.0	1	5.9	0	0.0	1	2.0	4	3.7
Sealant placement	1	4.8	2	10.5	2	11.8	2	100.0	5	10.2	12	11.1
Enameloplasty	0	0.0	0	0.0	2	11.8	1	50.0	0	0.0	3	2.8
Preventive Resin	2	9.5	0	0.0	1	5.9	0	0.0	0	0.0	3	2.8
Full restoration	3	14.3	3	15.8	0	0.0	0	0.0	1	2.0	7	6.5

- Overall, the most common original plan of treatment for the tooth was monitoring at about 76%, followed by oral hygienist instruction at approximately 44%.

4. Which **one** best describes the luster of the questionable area today?

- Chalky appearance
- Shiny appearance

5. Which **one** best describes the color of the questionable area today?

- Opaque
- White spot
- Yellow/light brown discoloration
- Dark brown/black discoloration
- Other _____

Table Q4-Q5: Description of questionable area by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Which one describes the luster of the questionable area today?												
Chalky	7	43.8	5	45.5	7	43.8	0	0.0	25	73.5	44	57.1
Shiny	9	56.3	6	54.5	9	56.3	0	0.0	9	26.5	33	42.9
Which one best describes the color of the questionable area today?												
Opaque	3	18.8	1	7.7	3	18.8	1	100.0	1	3.0	9	11.4
White spot	0	0.0	0	0.0	1	6.3	0	0.0	3	9.1	4	5.1
Yellow/light brown	8	50.0	8	61.5	9	56.3	0	0.0	18	54.5	43	54.4
Dark brown/black	5	31.3	4	30.8	3	18.8	0	0.0	11	33.3	23	29.1
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

- Overall, 57% of lesions were described as having a chalky luster.
- Overall, 54% of lesions were of a yellow/light brown and 29% were dark brown/black color; fewer were lighter in color.

6. When you used a dental explorer, did you experience roughness of the enamel surface upon light exploration?

- a. Yes
- b. No

7. When you used a dental explorer, did you experience retention of the explorer in a groove or fissure?

- a. Yes-Slight stick
- b. Yes-Resistance to removal
- c. No

Table Q6-Q7: Experiences using dental explorer by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
When you used a dental explorer, did you experience roughness of the enamel surface upon light exploration?												
Yes	8	57.1	2	50.0	7	43.8	1	100.0	26	83.9	44	66.7
No	6	42.9	2	50.0	9	56.3	0	0.0	5	16.1	22	33.3
When you used a dental explorer, did you experience retention of the explorer in a groove or fissure?												
Yes-Slight stick	4	28.6	1	25.0	2	12.5	0	0.0	7	22.6	14	21.2
Yes-Resist. removal	8	57.1	1	25.0	7	43.8	0	0.0	12	38.7	28	42.4
No	2	14.3	2	50.0	7	43.8	1	100.0	12	38.7	24	36.4

- Most practitioners (approximately 67% overall) experienced roughness when using the dental explorer with MN being slightly lower at 44% of the time.
- Overall, the majority of practitioners experienced retention when using the dental explorer, with 21% reporting a slight stick and 42% reporting resistance to removal.

8. What is the treatment plan for the tooth **today**? (Please check all that apply)

- a. Monitoring
- b. Oral hygiene instruction
- c. Applying/prescribing fluoride
- d. Applying varnish
- e. Sealant placement (etch tooth with **no** preparation, with sealant material/composite resin placed over it)
- f. Repair/replacement of sealant
- g. Repair/replacement of restoration
- h. Enameloplasty (removing superficial grooves and other defects with or without fluoride/resin material)
- i. Preventive Resin Restoration (i.e., minimal tooth prep, composite resin placed, with sealant placed over it)
- j. Full Restoration
- k. Other _____

Table Q8: Treatment plan for today by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
What is the treatment plan for the tooth today? (please check all that apply)												
Monitoring	0	0.0	0	0.0	4	23.5	0	0.0	2	4.3	6	5.7
Oral Hyg Instr	0	0.0	1	5.3	1	5.9	0	0.0	5	10.6	7	6.7
Apply fluoride	0	0.0	2	10.5	0	0.0	0	0.0	4	8.5	6	5.7
Apply varnish	2	10.0	0	0.0	0	0.0	0	0.0	0	0.0	2	1.9
Sealant placement	2	10.0	0	0.0	4	23.5	1	50.0	13	27.7	20	19.0
Repair/replace sealant	0	0.0	1	5.3	0	0.0	1	50.0	4	8.5	6	5.7
Repair/replace rest	2	10.0	0	0.0	1	5.9	0	0.0	1	2.1	4	3.8
Enameloplasty	1	5.0	2	10.5	0	0.0	0	0.0	0	0.0	3	2.9
Preventive Resin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Full restoration	11	55.0	16	84.2	8	47.1	0	0.0	24	51.1	59	56.2
Other	3	15.0	1	5.3	0	0.0	0	0.0	2	4.3	6	5.7

- The most common plan of treatment preferred was full restoration at 56%.

9. If you chose to restore this tooth today, what did you find?

- No caries
- Inactive/ re-mineralized caries
- Active caries (Outer 1/2 of Enamel)
- Active caries (Inner 1/2 of Enamel)
- Active caries (Outer 1/3 of Dentin)
- Active caries (Middle 1/3 of Dentin)
- Active caries (Inner 1/3 of Dentin)

Table Q9: Findings during restoration by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
If you chose to restore this tooth today, what did you find?												
No caries	3	16.7	1	9.1	0	0.0	0	0.0	0	0.0	4	7.3
Inactive caries	0	0.0	2	18.2	0	0.0	0	0.0	0	0.0	2	3.6
Active caries:												
Outer 1/2 of Enamel	4	22.2	0	0.0	0	0.0	0	0.0	3	17.6	7	12.7
Inner 1/2 of Enamel	2	11.1	1	9.1	0	0.0	0	0.0	1	5.9	4	7.3
Outer 1/3 of Dentin	8	44.4	2	18.2	6	66.7	0	0.0	10	58.8	26	47.3
Middle 1/3 of Dentin	1	5.6	4	36.4	2	22.2	0	0.0	1	5.9	8	14.5
Inner 1/3 of Dentin	0	0.0	1	9.1	1	11.1	0	0.0	2	11.8	4	7.3

- Most practitioners found an active caries with the majority (47% overall) being located in the outer 1/3 of the dentin.

10. If you chose to restore this tooth, what type of material did you use?

- a. Amalgam
- b. Composite
- c. Glass ionomer
- d. Other _____

Table Q10: Restoration material used by DPBRN region

	AL/MS		FL/GA		MN		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%
If you chose to restore this tooth, what type of material did you use?										
Amalgam	3	30.0	3	23.1	5	62.5	0	0.0	11	21.6
Composite	7	70.0	10	76.9	3	37.5	20	100.0	40	78.4
Glass ionomer	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

- The majority of practitioners used composite as the restoration material at 78%, varying across regions with SK reporting highest at 100%.
- None used glass ionomer.

Results from 24-month Follow-up Forms

1. Is the practitioner who is filling out this form today the same one who enrolled the questionable lesions on the original treatment date?

- a. Yes
b. No

Table Q1: Same practitioner by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Is the practitioner who is filling out this form today the same one who enrolled the questionable lesions on the original treatment date?												
Yes	303	99.3	252	95.1	86	68.8	26	78.8	635	82.6	1302	87.0
No	2	0.7	13	4.9	39	31.2	7	21.2	134	17.4	195	13.0

- Overall, 87% of practitioners were the same ones who enrolled the lesions originally; higher in AL/MS and FL/GA (95-99%) and lower in MN (69%) and PDA (79%).

2. Is this visit due to a problem with this specific tooth?

- a. Yes
b. No

Table Q2: Visit due to a problem with specific tooth by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Is this visit due to a problem with this specific tooth?												
Yes	5	1.6	2	0.8	1	0.8	0	0.0	5	0.6	13	0.9
No	299	98.4	263	99.2	124	99.2	33	100.0	765	99.4	1484	99.1

- Only about 1% of patients were being treated due to a problem with the specific tooth.

3. Currently, this lesion is:

- a. Being monitored with oral hygiene instruction and/or fluoride treatment
b. Sealed
c. Restored

Table Q3: Possible treatments by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Currently, the lesion is:												
Being monitored	157	52.5	191	72.1	107	85.6	1	3.1	598	77.8	1054	70.7
Sealed	48	16.1	38	14.3	13	10.4	21	65.6	151	19.6	271	18.2
Restored	94	31.4	36	13.6	5	4.0	10	31.3	20	2.6	165	11.1

- The majority of lesions were currently being monitored at approximately 71% overall with PDA being much lower at 3%.
- Overall, 18% of lesions were being sealed, much higher with PDA at approximately 66%.

4. Which **one** best describes the luster of the questionable area today?

- a. Chalky appearance
- b. Shiny appearance

5. Which **one** best describes the color of the questionable area today?

- a. Opaque
- b. White spot
- c. Yellow/light brown discoloration
- d. Dark brown/black discoloration
- e. Other _____

Questions 4-7. Among lesions being monitored: 1,015 of 1,054 had data.

PDA column omitted because only 1 lesion (shiny luster, yellow/light brown color) was included in total

Table Q4-Q5: Description of questionable area by DPBRN region

	AL/MS		FL/GA		MN		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%
Which one describes the luster of the questionable area today?										
Chalky	25	21.7	34	18.9	23	21.5	318	53.4	401	40.1
Shiny	90	78.3	146	81.1	84	78.5	278	46.6	598	59.9
Which one best describes the color of the questionable area today?										
Opaque	14	12.2	13	7.3	9	8.4	50	8.4	86	8.6
White spot	5	4.4	13	7.3	5	4.7	41	6.9	64	6.4
Yellow/light brown	53	46.1	91	50.8	56	52.3	285	48.0	486	48.8
Dark brown/black	43	37.4	56	31.3	34	31.8	216	36.4	349	35.0
Other	0	0.0	6	3.4	3	2.8	2	0.3	11	1.1

- Overall, about 60% of lesions were described as having a shiny luster and approximately 49% of lesions were of a yellow/light brown color and 35% were dark brown/black color; fewer were lighter in color.

6. When you used a dental explorer, did you experience roughness of the enamel surface upon light exploration?

- a. Yes
- b. No

7. When you used a dental explorer, did you experience retention of the explorer in a groove or fissure?

- a. Yes-Slight stick
- b. Yes-Resistance to removal
- c. No

Table Q6-Q7: Experiences using dental explorer by DPBRN region

	AL/MS		FL/GA		MN		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%
When you used a dental explorer, did you experience roughness of the enamel surface upon light exploration?										
Yes	41	40.2	48	33.1	39	38.6	140	32.9	269	34.8
No	61	59.8	97	66.9	62	61.4	285	67.1	505	65.3
When you used a dental explorer, did you experience retention of the explorer in a groove or fissure?										
Yes-Slight stick	22	21.6	17	12.1	15	19.7	27	6.4	81	10.9
Yes-Resist. removal	5	4.9	3	2.1	0	0.0	4	1.0	12	1.6
No	75	73.5	121	85.8	61	80.3	392	92.7	743	87.5

- When using the dental explorer, practitioners experienced roughness on about 35% of lesions, slight retention on less than 11% and resistance on less than 2%.

Question 8 refers to lesions being sealed (and some monitored).

8. Sealant rating: rate the sealant as “Acceptable” or “Repair or Replace”

- a. Acceptable-No further clinical action is needed, please indicate if you adjusted the sealant

Did you grind or adjust to improve the sealant today?

- A Yes B No

- b. Repair or replace-Clinical action is needed

Table Q8: Condition of the sealant by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Sealant rating: rate the sealant as “Acceptable” or “Repair or Replace”												
Acceptable: Yes	43	93.5	35	100.0	10	83.3	20	100.0	135	91.2	243	93.1
Did you grind or adjust to improve the sealant today? (No further clinical action is needed).												
Yes	2	4.8	0	0.0	0	0.0	0	0.0	3	2.2	5	2.2
No	40	95.2	25	100.0	9	100.0	20	100.0	132	97.8	226	97.8
No: Repair or Replace	3	6.5	0	0.0	2	16.7	0	0.0	13	8.8	18	6.9

- The sealant was rated as acceptable for 93% of lesions, of which for 2% there was a need for grinding or adjusting of the sealant for improvement.

9. What is your treatment plan for this sealant? (check all that apply)
(Not reported because of small numbers [n=18]; percents difficult to interpret as check all that apply yielded sums greater than 100%)

Question 10 refers to lesions being restored.

10. Restoration: rate the restoration as “Acceptable” or “Repair or Replace”

- a. Acceptable-No further clinical action is needed, please indicate if you adjusted the restoration

Did you grind or adjust to improve the restoration today?

A Yes B No

- b. Repair or replace-Clinical action is needed

Table Q10: Condition of the restoration by DPBRN region

	AL/MS		FL/GA		MN		PDA		SK		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Restoration: rate the restoration as “Acceptable” or “Repair or Replace”												
Acceptable: Yes	87	98.9	24	85.7	4	100.0	10	100.0	17	100.0	142	96.6
Did you grind or adjust to improve the restoration today? (No further clinical action is needed).												
Yes	1	1.2	2	9.1	0	0.0	0	0.0	1	5.9	4	2.9
No	86	98.9	20	90.9	3	100.0	10	100.0	16	94.1	135	97.1
No: Repair or Replace	1	1.1	4	14.3	0	0.0	0	0.0	0	0.0	5	3.4

- Overall, about 97% of restorations were acceptable, and of these, less than 3% needed any grinding or adjusting to improve the restoration.

11. What is your treatment plan for this restoration? (check all that apply)
(Not reported because of small numbers [n=5]; percents difficult to interpret as check all that apply yielded sums greater than 100%)