

**Dental Practice-Based Research Network**  
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**DPBRN 5: Reasons for replacement or repair of dental restorations**

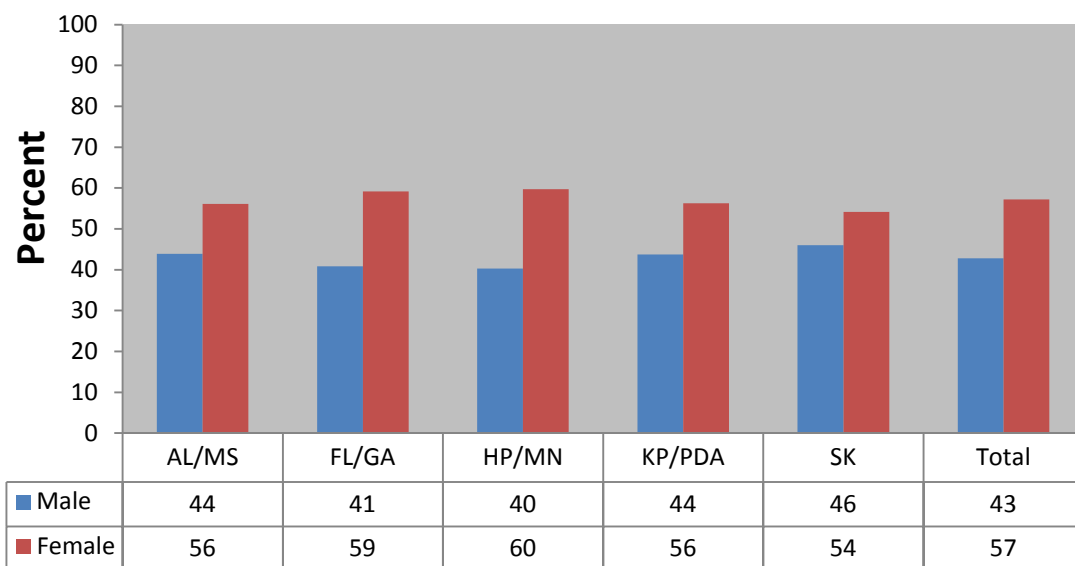
**Summary of Overall Results - Graphs**

**Date Prepared: June 20, 2011**

1. Patient Gender

- a Male
- b Female

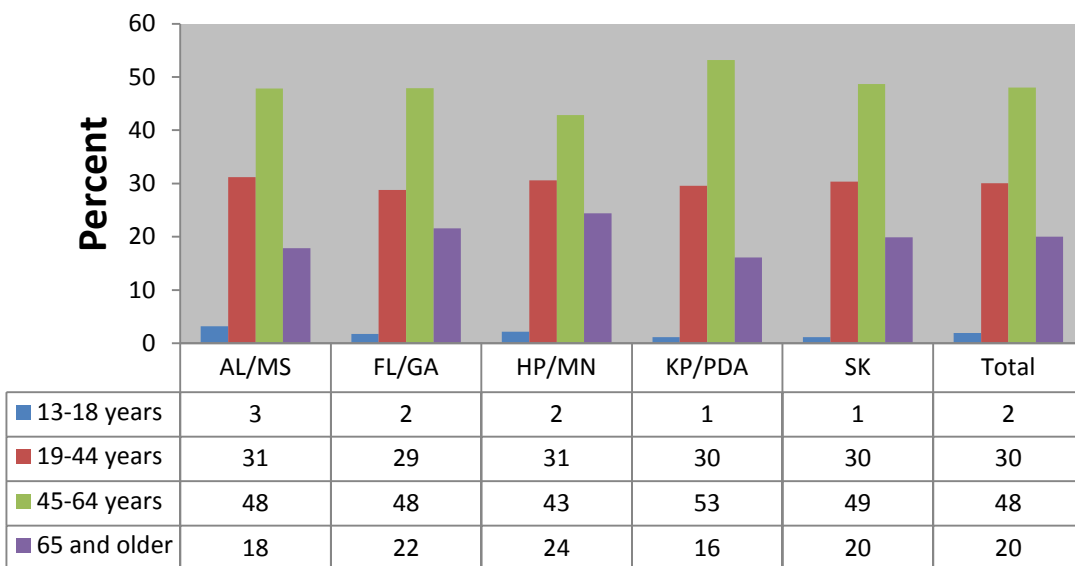
### Question 1: Gender



- About 43% of the patients were male.

2. Patient age in years: Mean age was 51.5 ± 16 years (range: 13 to 102).

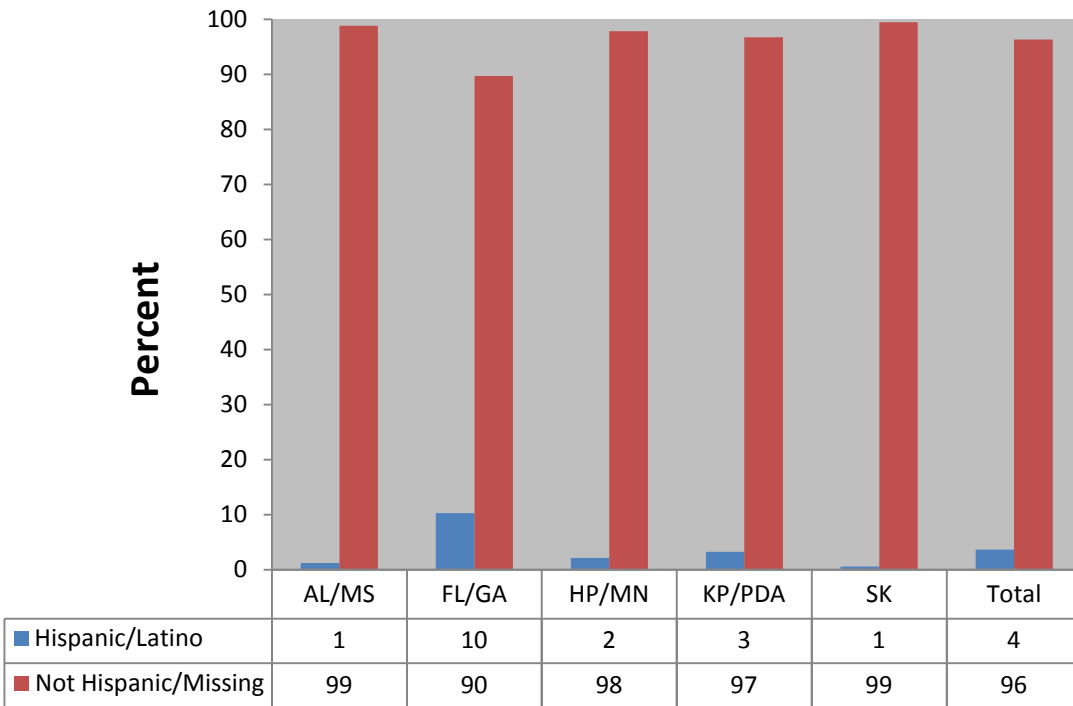
### Question 2: Age



### 3. Patient Ethnicity

- a Hispanic or Latino
- b Not Hispanic or Latino

#### Question 3: Ethnicity

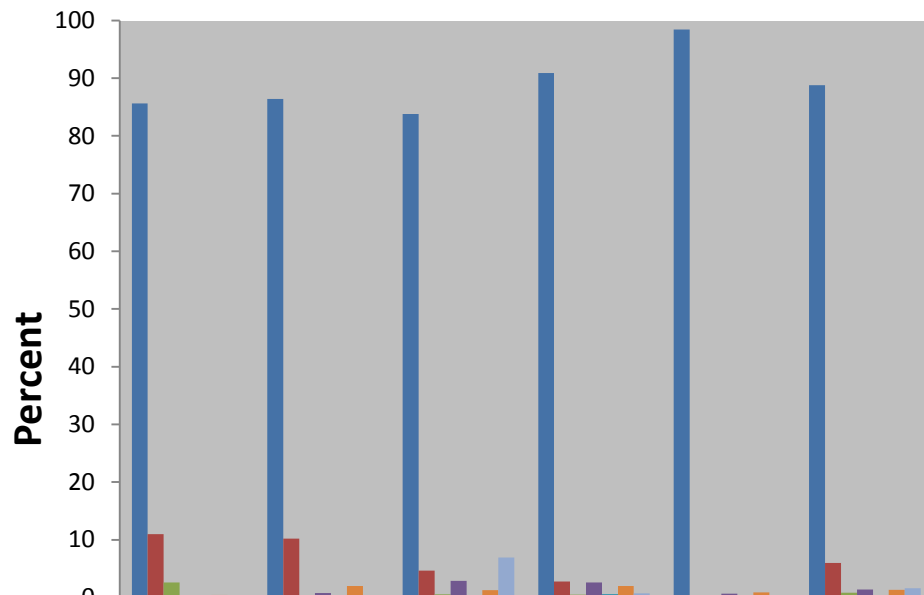


- About 4% of patients were of Hispanic/Latino ethnicity; higher in FL/GA, 10%.

4. Patient Race

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

**Question 4: Race**

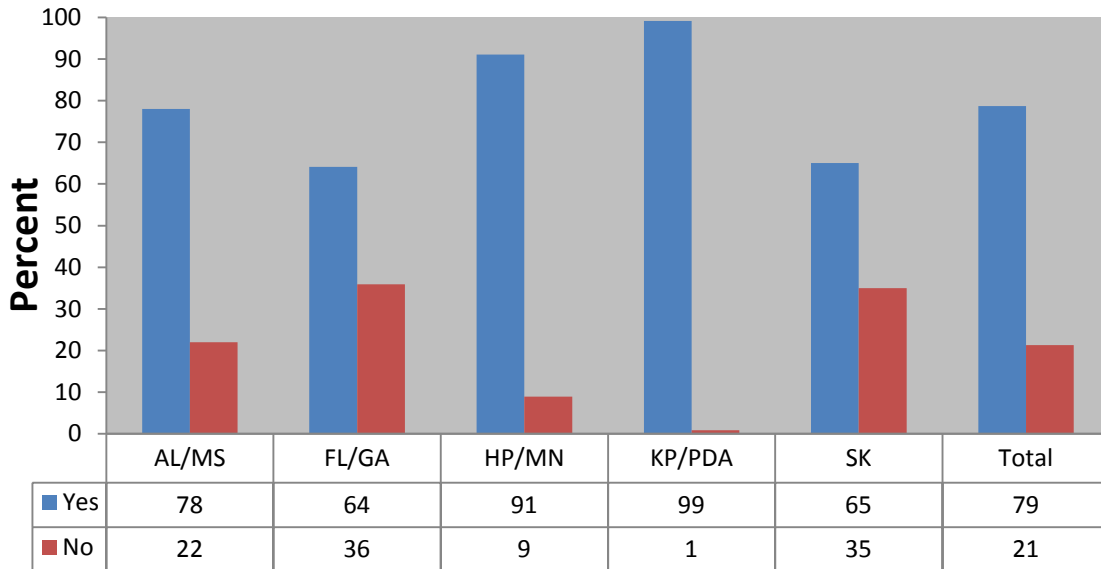


|                        | AL/MS | FL/GA | HP/MN | KP/PDA | SK | Total |
|------------------------|-------|-------|-------|--------|----|-------|
| White                  | 86    | 86    | 84    | 91     | 98 | 89    |
| Black                  | 11    | 10    | 5     | 3      | 0  | 6     |
| Am. Indian/AK native   | 3     | 0     | 1     | 1      | 0  | 1     |
| Asian                  | 0     | 1     | 3     | 3      | 1  | 1     |
| HA or Pacific Islander | 0     | 0     | 0     | 1      | 0  | 0     |
| Other                  | 0     | 2     | 1     | 2      | 1  | 1     |
| Missing                | 0     | 0     | 7     | 1      | 0  | 2     |

- About 89% of the patients were White and 6% were Black/African-American; differed by region with SK being 98% White and FL/GA, AL/MS being 10–11% African-American.
- Overall, 79% of the patients had some type of dental insurance, ranged from 64% (FL/GA) to 99% (KP/PDA).

5. Does the patient have any dental insurance or third party coverage?
- a Yes
  - b No

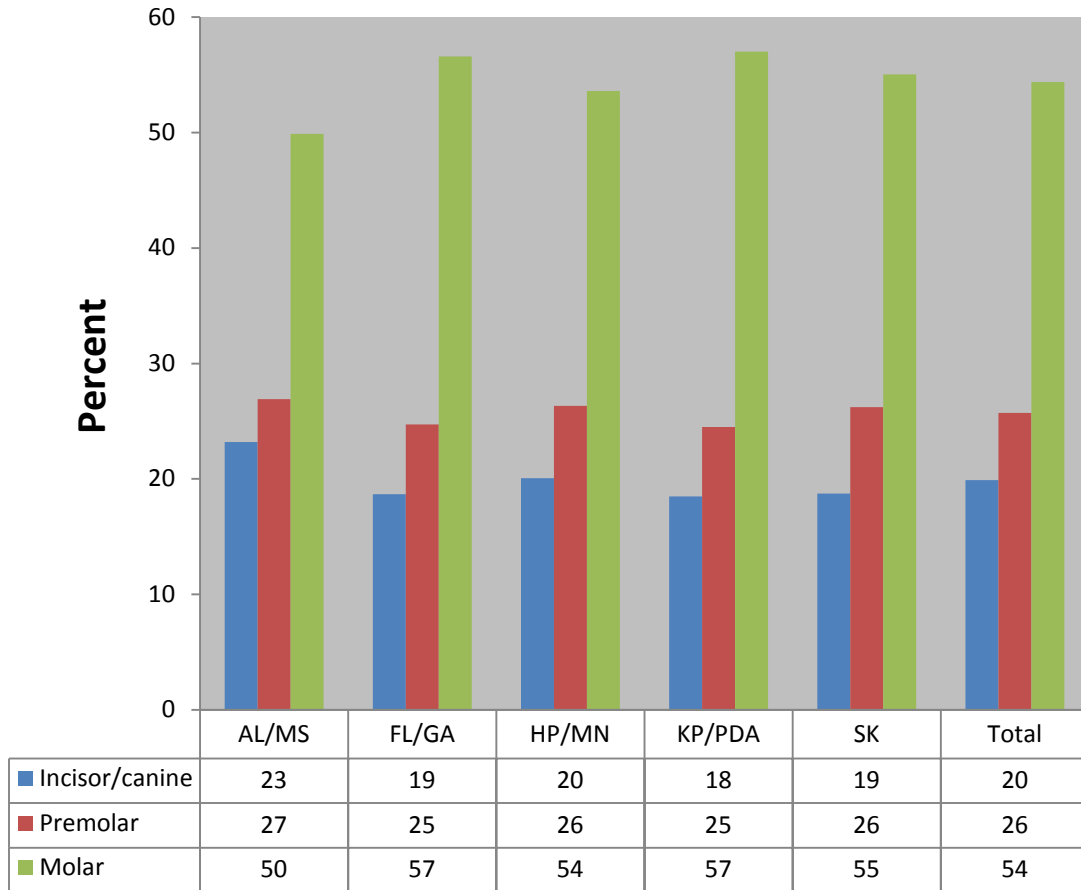
### Question 5: Insurance



- Overall, 79% of the patients had some type of dental insurance, ranged from 64% (FL/GA) to 99% (KP/PDA).

6. Which tooth was treated **today**?  
*(Not included in individual reports.)*

## Tooth Position

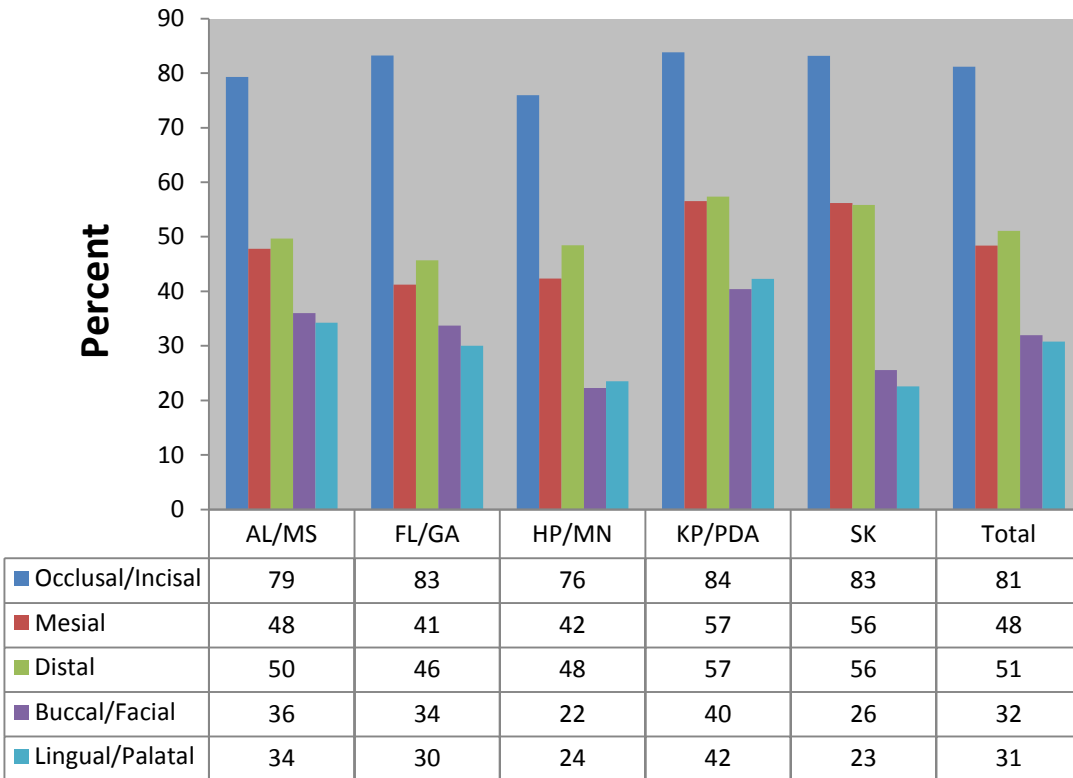


- Overall, about 20% of the restorations were on incisors/canines, 26% were on premolars, and 54% on molars.

7. **Before** your treatment today, which tooth surface(s) did the restoration include? **(Mark all that apply)**

- a Occlusal or Incisal
- b Mesial
- c Distal
- d Buccal or Facial
- e Lingual or Palatal

### Question 7: Tooth Surface (Before Treatment)

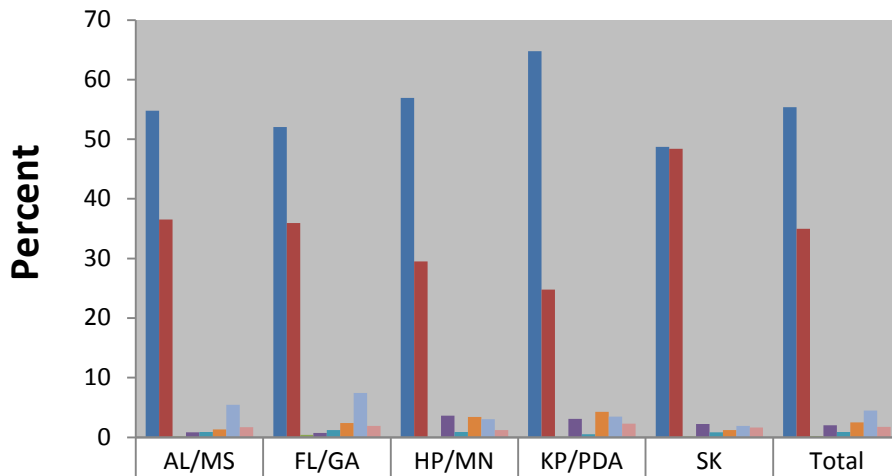


- 81% of tooth surfaces which were occlusal or incisal before today's treatment.
- 48% were mesial, ranged from 41% (FL/GA) to 57% (KP/PDA).
- 51% were distal with SK and KP/PDA being higher at 56% and 57%, respectively.
- 32% were buccal or facial, ranged from 22% (HP/MN) to 40% (KP/PDA).
- 31% were lingual or palatal, ranged from 23% (SK) to 42% (KP/PDA).

8. What material was in the restoration **before** you repaired or replaced it today? (Mark all that apply)

- a Amalgam
- b Composite resin directly placed, including compomer
- c Indirect composite resin
- d Glass ionomer, resin-modified glass ionomer
- e Ceramic or porcelain
- f Cast gold or any other cast metallic restoration
- g Combined metal/ceramic restoration
- h Unknown

### Question 8: Material before Treatment



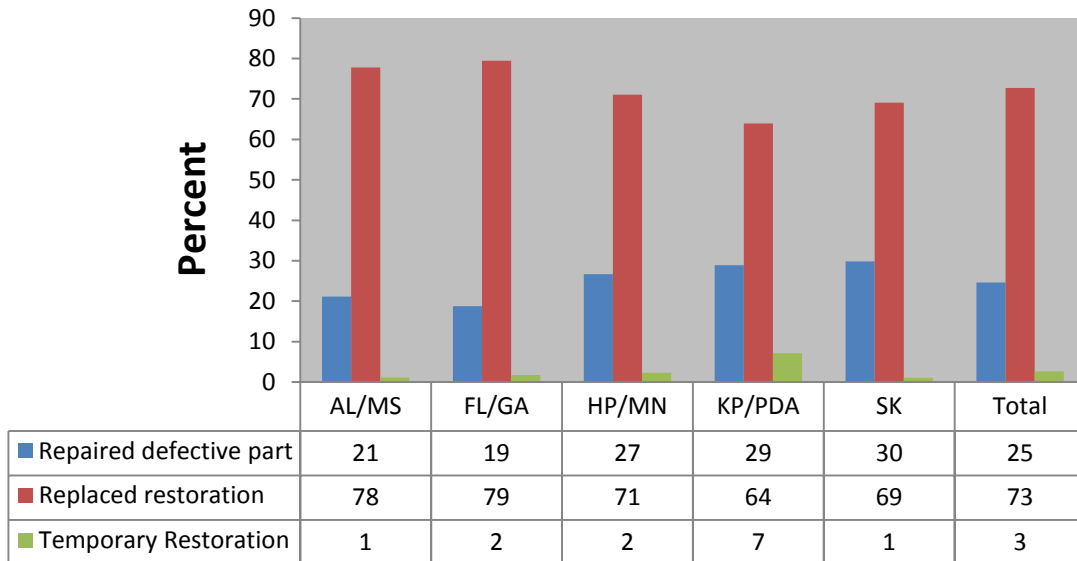
|                          | AL/MS | FL/GA | HP/MN | KP/PDA | SK | Total |
|--------------------------|-------|-------|-------|--------|----|-------|
| Amalgam                  | 55    | 52    | 57    | 65     | 49 | 55    |
| Direct composite resin   | 37    | 36    | 30    | 25     | 48 | 35    |
| Indirect composite resin | 0     | 0     | 0     | 0      | 0  | 0     |
| Glass ionomer            | 1     | 1     | 4     | 3      | 2  | 2     |
| Ceramic/Porcelain        | 1     | 1     | 1     | 0      | 1  | 1     |
| Gold/Metal               | 1     | 2     | 3     | 4      | 1  | 3     |
| Combined metal/ceramic   | 5     | 7     | 3     | 3      | 2  | 4     |
| Unknown                  | 2     | 2     | 1     | 2      | 2  | 2     |

- The most common material found in the restoration before treatment was amalgam at 55%, ranged from 49% (SK) to 65% (KP/PDA).

9. What treatment did you do on this tooth today?

- a Repaired a defective part of the restoration
- b Replaced the entire restoration
- c Placed a temporary restoration

### Question 9: Treatment Today

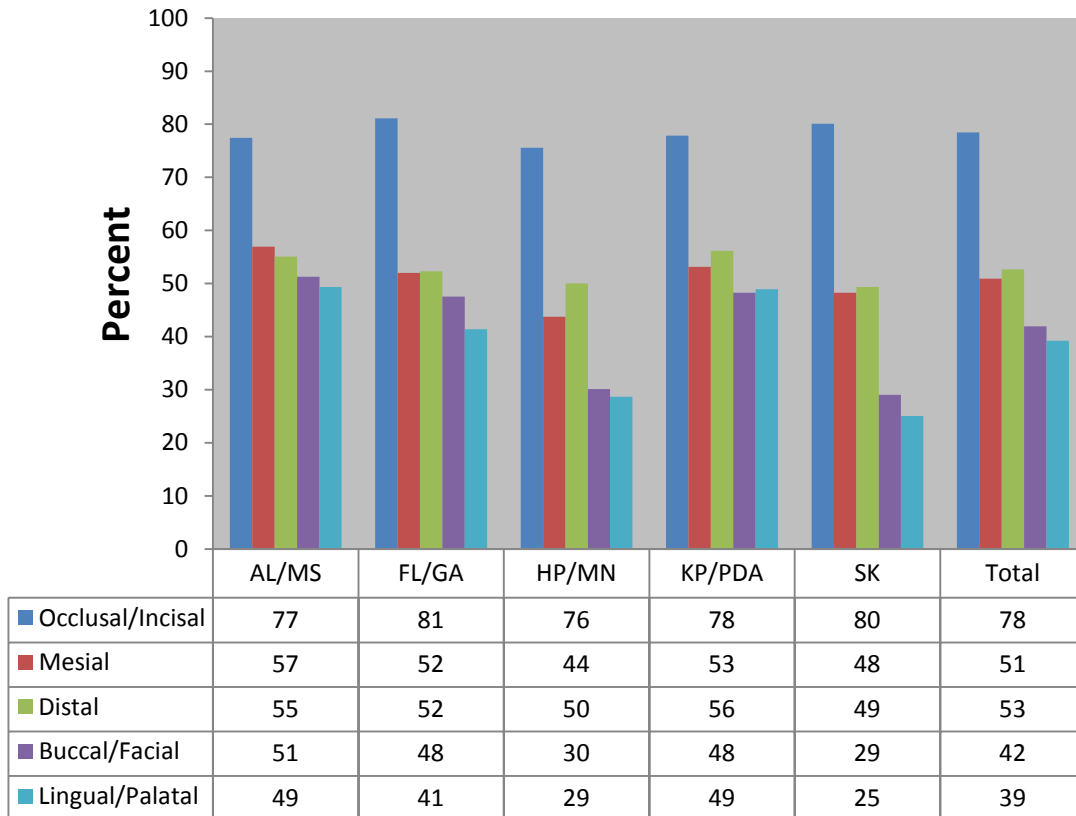


- 73% of the patients received entire restorations, ranged from 64% (KP/PDA) to 79% (FL/GA).

10. Which restoration or tooth surface(s) did you repair or replace today? (Mark all that apply)

- a Occlusal or Incisal
- b Mesial
- c Distal
- d Buccal or Facial
- e Lingual or Palatal

### Question 10: Tooth Surface Repaired Today

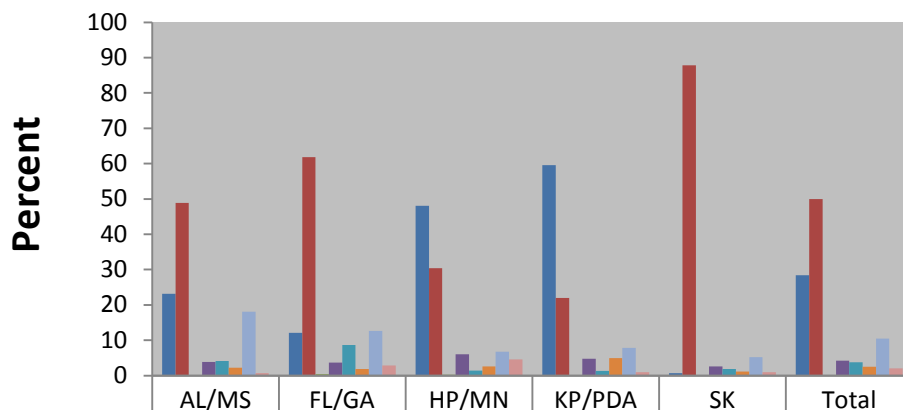


- 78% involved occlusal or incisal.
- 52% involved mesial, ranged from 44% (HP/MN) to 57% (AL/MS).
- 53% involved distal tooth surfaces.
- 42% involved buccal or facial, ranged from 29% (SK) to 51% (AL/MS).
- 39% involved lingual or palatal, ranged from 25% (SK) to 49% (AL/MS and KP/PDA).

11. What material did you use for the restoration or repair **today**? (Mark all that apply)

- a Amalgam
- b Composite resin directly placed, including compomer
- c Indirect composite resin
- d Glass ionomer, resin-modified glass ionomer
- f Cast gold or any other cast metallic restoration
- g Combined metal/ceramic restoration
- h Temporary restorative material

### Question 11: Material Used Today



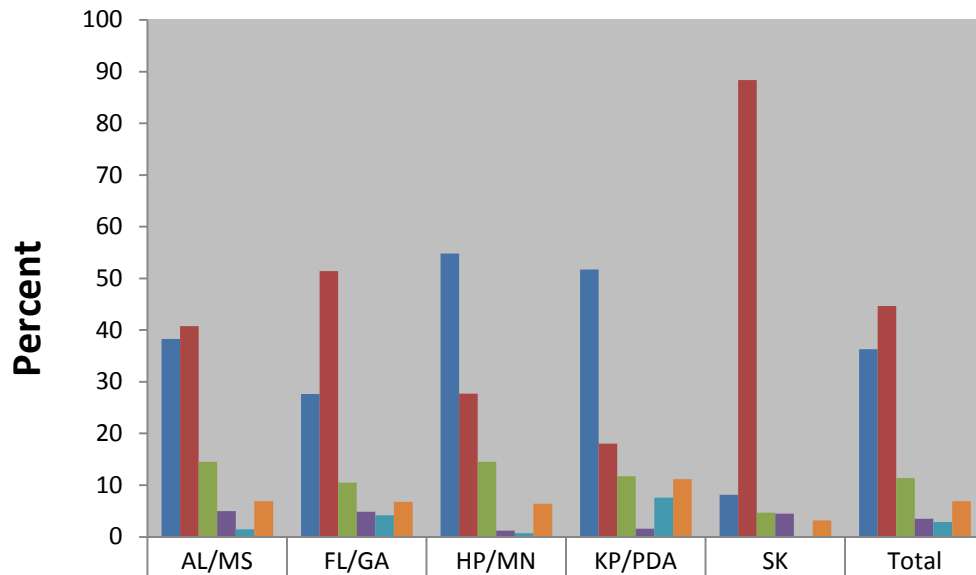
| Material                 | AL/MS | FL/GA | HP/MN | KP/PDA | SK | Total |
|--------------------------|-------|-------|-------|--------|----|-------|
| Amalgam                  | 23    | 12    | 48    | 60     | 1  | 28    |
| Direct Composite Resin   | 49    | 62    | 30    | 22     | 88 | 50    |
| Indirect Composite Resin | 0     | 0     | 0     | 0      | 0  | 0     |
| Glass Ionomer            | 4     | 4     | 6     | 5      | 3  | 4     |
| Ceramic/Porcelain        | 4     | 9     | 1     | 1      | 2  | 4     |
| Gold/Metal               | 2     | 2     | 3     | 5      | 1  | 3     |
| Combined Metal/Ceramic   | 18    | 13    | 7     | 8      | 5  | 10    |
| Temporary                | 1     | 3     | 5     | 1      | 1  | 2     |

- Composite resin directly placed was the most common material used in today's treatment at 50%, ranged from 22% (KP/PDA) to 88% (SK).
- Amalgam was used in 28%, ranged from 1% (SK) to 60% (KP/PDA).
- 10% of treatments used a combined metal and ceramic restoration, ranged from 5% (SK) to 18% (AL/MS).

12. Did you use a base, lining or bonding material to place or repair the restoration today?  
(Mark all that apply)

- a None
- b Resin-based bonding material
- c Glass ionomer, resin-modified glass ionomer
- d Calcium hydroxide-based cement/liner
- e Varnish (e.g. Copalite)
- f Other

**Question 12: Base, Lining or Bonding Material**



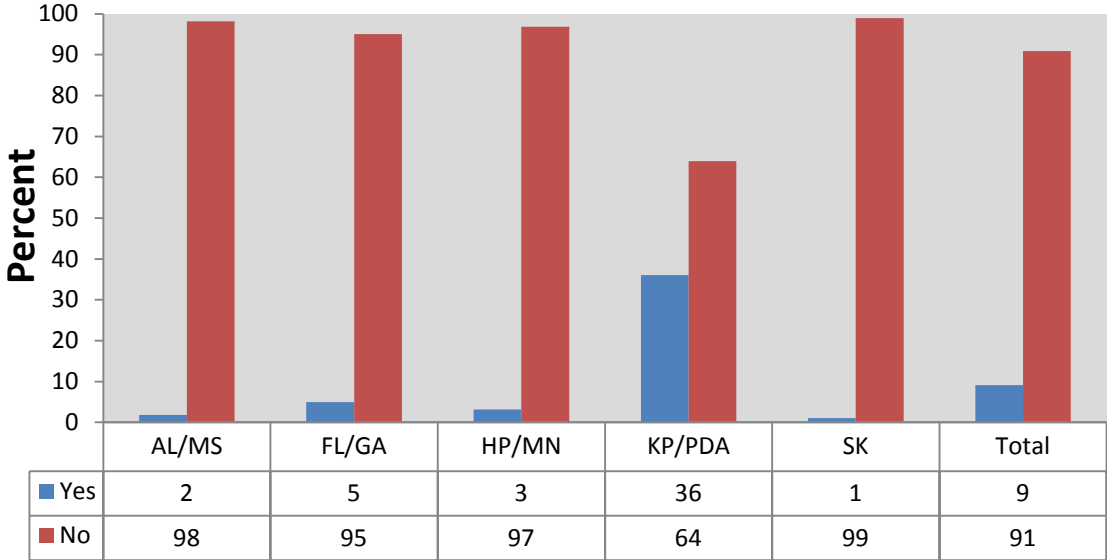
|                   | AL/MS | FL/GA | HP/MN | KP/PDA | SK | Total |
|-------------------|-------|-------|-------|--------|----|-------|
| None              | 38    | 28    | 55    | 52     | 8  | 36    |
| Resin-based       | 41    | 51    | 28    | 18     | 88 | 45    |
| Glass Ionomer     | 15    | 11    | 15    | 12     | 5  | 11    |
| Calcium Hydroxide | 5     | 5     | 1     | 2      | 5  | 4     |
| Varnish           | 1     | 4     | 1     | 8      | 0  | 3     |
| Other             | 7     | 7     | 6     | 11     | 3  | 7     |

- 36% used no type of base, lining, or bonding material, ranged from 8% (SK) to 55% (HP/MN).
- The most common type of material used was resin-based, about 45% of all restorations, ranged from 28% (HP/MN) to 88% (SK).
- Varnish and calcium hydroxide-based cement/liner were used infrequently, each in less than 4% of restorations.

13. Did you use a rubber dam during the restorative procedure?

- a Yes
- b No

### Question 13: Rubber Dam

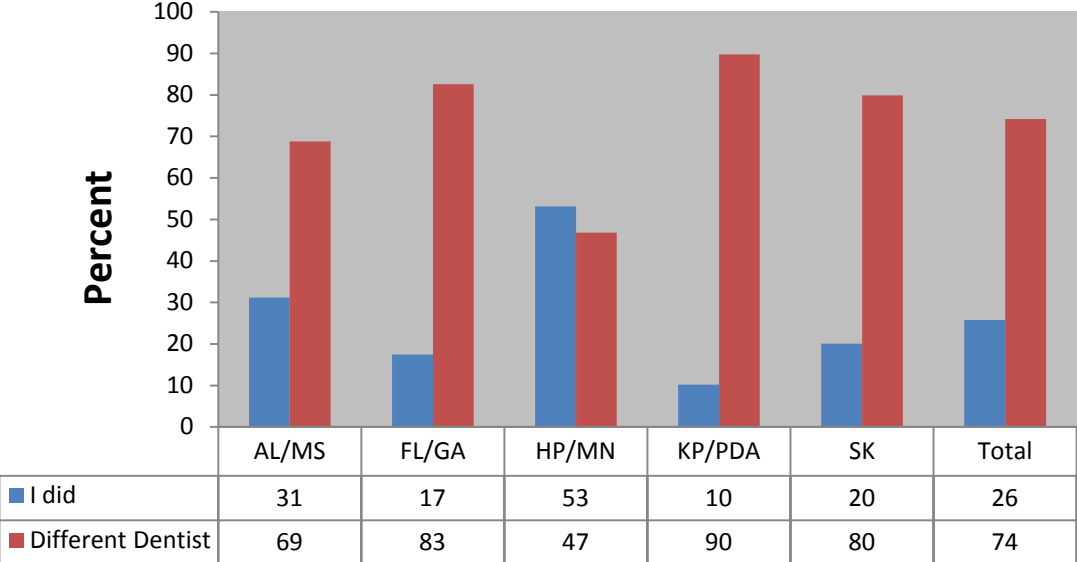


- Overall, 9% of restorative procedures used a rubber dam, notably higher in KP/PDA at 36%.

14. Did you, or a different dentist, place the original restoration that was replaced or repaired today?

- a I did the original restoration
- b A different dentist did the original restoration

### Question 14: Who Performed Original Restoration

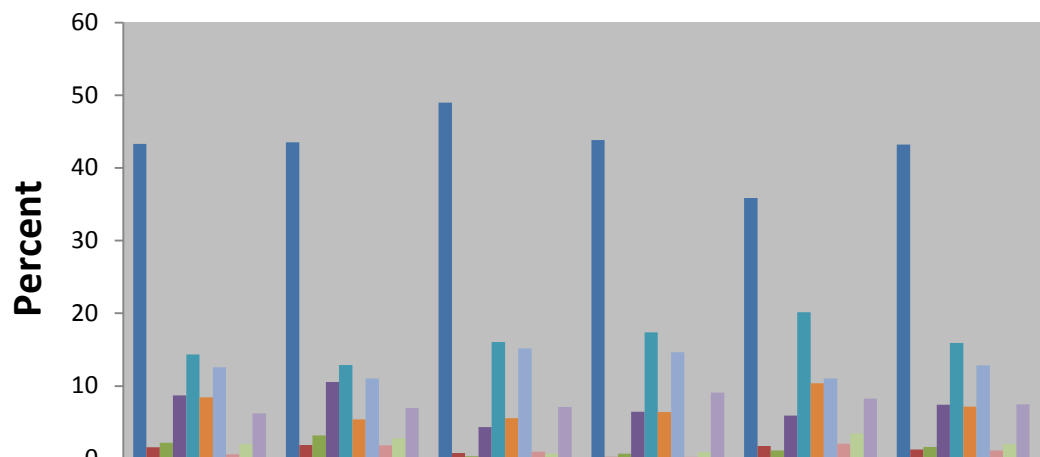


- 74% of the restorations were done by other dentists, ranged from 47% (HP/MN) to 90% (KP/PDA).

15. What was the **main** reason for repair or replacement of the restoration today? (**Choose only one**)

- a Secondary/recurrent caries
- b Entire restoration was discolored
- c Restoration margins were discolored
- d Restoration margins were degraded or ditched
- e Bulk fracture of restoration
- f Restoration was missing
- g Tooth was fractured
- h Pain or sensitivity
- i Patient request
- j Other reason

### Question 15: Reason for Restoration



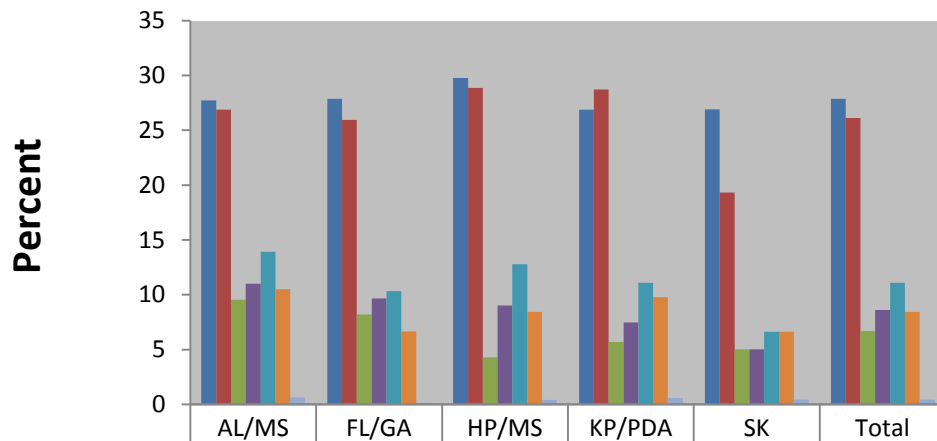
|                           | AL/MS | FL/GA | HP/MN | KP/PDA | SK | Total |
|---------------------------|-------|-------|-------|--------|----|-------|
| ■ Secondary               | 43    | 44    | 49    | 44     | 36 | 43    |
| ■ Entire Rest. Discolored | 2     | 2     | 1     | 0      | 2  | 1     |
| ■ Margins Discolored      | 2     | 3     | 0     | 1      | 1  | 2     |
| ■ Margins Degraded        | 9     | 11    | 4     | 6      | 6  | 7     |
| ■ Bulk Fracture of Rest.  | 14    | 13    | 16    | 17     | 20 | 16    |
| ■ Restoration Missing     | 8     | 5     | 6     | 6      | 10 | 7     |
| ■ Tooth Fractured         | 13    | 11    | 15    | 15     | 11 | 13    |
| ■ Pain/Sensitivity        | 1     | 2     | 1     | 0      | 2  | 1     |
| ■ Patient Request         | 2     | 3     | 1     | 1      | 3  | 2     |
| ■ Other Reason            | 6     | 7     | 7     | 9      | 8  | 7     |

- The most common reason for repair or replacement of the restoration was a secondary/recurrent caries at 43%, ranged from 36% (SK) to 49% (HP/MN).

16. What technique or observation led you to the diagnosis of secondary caries? (Mark all that apply)

- a Probing with a dental explorer
- b Radiographs
- c Intuition or experience based on clinical appearance
- d Discolored margin of the restoration
- e Frank or definite caries cavitation
- f Presence of soft, discolored dentin or enamel
- g An exploratory preparation to inspect the lesion

### Question 16: Technique used for Diagnosis



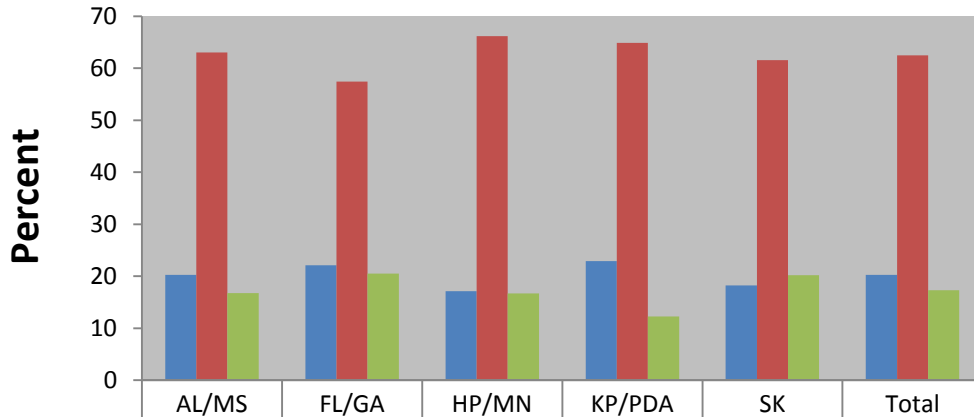
|                          | AL/MS | FL/GA | HP/MS | KP/PDA | SK | Total |
|--------------------------|-------|-------|-------|--------|----|-------|
| Dental Explorer          | 28    | 28    | 30    | 27     | 27 | 28    |
| Radiographs              | 27    | 26    | 29    | 29     | 19 | 26    |
| Intuition/Experience     | 10    | 8     | 4     | 6      | 5  | 7     |
| Discolored Margin        | 11    | 10    | 9     | 7      | 5  | 9     |
| Frank/Definite Caries    | 14    | 10    | 13    | 11     | 7  | 11    |
| Discolored Dentin/Enamel | 11    | 7     | 8     | 10     | 7  | 8     |
| Inspection of Lesion     | 1     | 0     | 0     | 1      | 0  | 0     |

- The most common diagnostic techniques for secondary caries were the dental explorer at 28% and radiographs at 26%, and the least common was inspection of the lesion at 0.4%.
- These were similar across regions.

17. Where was the clinically diagnosed secondary caries relative to the existing restoration?  
**(Choose only one)**

- a Gingival/apical to the restoration in enamel
- b Gingival/apical to the restoration in dentin or cementum
- c Other location

### Question 17: Location of Secondary Caries



- The most common location of the restoration was gingival/apical to the restoration in dentin or cementum at 62%.