NATIONAL DENTAL PRACTICE-BASED RESEARCH NETWORK STUDY
FACTORS FOR SUCCESSFUL CROWNS

1. Do you do at least one single-unit crown each month in your practice?
   ☐ Yes
   ☐ No [SKIP TO Q55]

2. How many do you personally do in a typical month?

   |___|___|___| single-unit crowns each month

3. What percentage of single-unit crowns did you have to reject and re-do, for any reason, in the past 6 months? Include the single-unit crowns that you reject once you get them back from the dental laboratory. (Choose only one)
   ☐ Less than 2%
   ☐ 2-4%
   ☐ 5-7%
   ☐ 7-10%
   ☐ More than 10%

4. Of all the crowns you remade in the past six months, rank the PRIMARY reason the crown was remade with 1 being the most common and 5 being the least common. Rank each of the five reasons listed below. Do not leave any blank.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal misfit and/or open margins</td>
<td></td>
</tr>
<tr>
<td>Esthetics and/or shade mismatch</td>
<td></td>
</tr>
<tr>
<td>The crown not fitting the tooth, including rocking and spinning</td>
<td></td>
</tr>
<tr>
<td>Occlusal errors</td>
<td></td>
</tr>
<tr>
<td>Proximal misfit, including open contacts</td>
<td></td>
</tr>
</tbody>
</table>

This is a sample questionnaire. Please do not complete this questionnaire.
5. Please list any other reasons that cause you to reject a crown at insertion. Please print your answers.

______________________________________________________________________________

______________________________________________________________________________

6. Rank the top three MOST COMMON reasons you recommend a crown in your practice, with 1 being the most common and 3 being the least common. Select and rank only three reasons from the list below.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active caries</td>
<td></td>
</tr>
<tr>
<td>Endodontic therapy</td>
<td></td>
</tr>
<tr>
<td>Large restoration</td>
<td></td>
</tr>
<tr>
<td>Broken restoration</td>
<td></td>
</tr>
<tr>
<td>Esthetics</td>
<td></td>
</tr>
<tr>
<td>Change vertical dimension</td>
<td></td>
</tr>
<tr>
<td>Abutment for an RPD or other prosthesis</td>
<td></td>
</tr>
<tr>
<td>Other, specify: _______________________________</td>
<td></td>
</tr>
</tbody>
</table>
The next four questions show pictures of teeth. Assume each patient is a 40-year female patient of yours who attends her annual recall visits on a dependable basis, has no relevant medical history, is at low risk for dental decay, has satisfactory occlusion with minimal wear, and is financially able to pay for a crown out-of-pocket.

Please assume that none of the teeth in the following four photographs have active dental caries and none have any radiographic evidence of pathology.

7. How likely would you be to recommend to her that she have a single-unit crown on this tooth?
   - [ ] Very likely to recommend a crown
   - [ ] Likely to recommend a crown
   - [ ] Not likely to recommend a crown
   - [ ] Definitely not recommend a crown

8. How likely would you be to recommend to her that she have a single-unit crown on this tooth?
   - [ ] Very likely to recommend a crown
   - [ ] Likely to recommend a crown
   - [ ] Not likely to recommend a crown
   - [ ] Definitely not recommend a crown

9. How likely would you be to recommend to her that she have a single-unit crown on this tooth?
   - [ ] Very likely to recommend a crown
   - [ ] Likely to recommend a crown
   - [ ] Not likely to recommend a crown
   - [ ] Definitely not recommend a crown
10. How likely would you be to recommend a crown to her for this tooth?

- [ ] Very likely to recommend a crown
- [ ] Likely to recommend a crown
- [ ] Not likely to recommend a crown
- [ ] Definitely not recommend a crown

11. When a patient has a posterior tooth that has had recent endodontic treatment, how often do you recommend a single-unit crown?

- [ ] >75%
- [ ] 50-74%
- [ ] 25-49%
- [ ] <24%

12. When a patient has an anterior tooth that has had recent endodontic treatment, how often do you recommend a single-unit crown?

- [ ] >75%
- [ ] 50-74%
- [ ] 25-49%
- [ ] <24%

13. What type of handpiece do you typically usually use for single-unit crown preparations?

- [ ] Electric high-speed
- [ ] Regular price air turbine high-speed handpiece ($500 or less)
- [ ] Expensive air turbine high-speed handpiece (more than $500)
- [ ] Other, specify: ________________________________

14. How much total chair time do you usually book for a single-unit crown preparation, impression, and temporization appointment? (Assume you are sending crown to lab for fabrication, not milling it yourself.)

| | | | minutes
15. Which of the following best describes your part of the practice during the past 12 months?

☐ Too busy to treat all people requesting appointments
☐ Provided care to all who requested appointments, but the practice was overburdened
☐ Provided care to all who requested appointments and the practice was not overburdened
☐ Not busy enough - the practice could have treated more patients

16. Suppose that you are preparing a molar for a single-unit crown. The crown restoration will be full-coverage, metal-ceramic (PFM, porcelain-fused-to-metal) crown with porcelain that covers the entire occlusal surface. The patient has satisfactory occlusion with minimal wear. How much occlusal clearance would you create for this crown?

☐ 1.5 mm
☐ 2 mm
☐ More than 2 mm

17. What do you consider the ideal location for a finish line for a single-unit crown?

☐ Above the crest of the gingival tissue
☐ At the crest of the gingival tissue
☐ 1 mm below the gingival tissue
☐ 2 mm below the gingival tissue

18. About what percent of the time do you use magnification of some sort when preparing a tooth for a crown?

|   |   | %

19. About what percent of the time do you use extra lighting of some sort (that is, other than the usual operatory overhead lamp) when preparing a tooth for a crown?

|   |   | %

For the next four questions, assume your patient is a 40-year male who attends his annual recall visits on a dependable basis, has no relevant medical history, is at low risk for dental decay, has satisfactory occlusion with minimal wear, and is financially able to pay for a crown out-of-pocket.
20. Suppose you are doing a routine single-unit crown on tooth #19. What material would you most likely recommend? (Choose only one)
   ☐ Full metal, using the metal type of your and/or your patient’s preference
   ☐ Porcelain-fused-to-metal, using the metal type of your and/or your patient’s preference
   ☐ All-zirconia crown (e.g., Bruxzir)
   ☐ Layered zirconia crown (e.g., Lava; zirconia core with porcelain overlay)
   ☐ Lithium disilicate (e.g., e-Max)
   ☐ Other, specify: _________________________

21. What type of margin preparation would you use for this crown? (Choose only one)
   ☐ Chamfer or heavy chamfer
   ☐ Shoulder
   ☐ Shoulder with bevel
   ☐ Knife edge
   ☐ Other, specify: _________________________

22. Suppose you have the same patient as in the previous question, but the single-unit crown is on tooth #8. What material would you most likely recommend? (Choose only one)
   ☐ Porcelain-fused-to-metal, using the metal type of your and/or your patient’s preference
   ☐ All-zirconia crown (e.g., Bruxzir)
   ☐ Layered zirconia crown (e.g., Lava; zirconia core with porcelain overlay)
   ☐ Lithium disilicate (e.g., e-Max)
   ☐ Leucite reinforced glass ceramic (e.g., Empress)
   ☐ Other, specify: _________________________

23. What type of margin preparation would you use for this crown? (Choose only one)
   ☐ Chamfer or heavy chamfer
   ☐ Shoulder
   ☐ Shoulder with bevel
   ☐ Knife edge
   ☐ Other, specify: _________________________
24. What percent of the time do you use the following types of impression materials/techniques for crown impressions? (Percentages for items 24a through 24e should add up to 100%)

   a. Polyvinylsiloxane (PVS or VPS) _____%
   b. Polyether _____%
   c. Optical impressions (digital or CAD-CAM) _____%
   d. Hydrocolloid (or alginate) _____%
   e. Other, specify: ___________________ _____%

   Total = 100%

25. Which of the following best describes the viscosity you most often use for the material used to fill the impression tray? (Choose only one)

  ☐ I only do optical impressions
   ☐ Light
   ☐ Medium
   ☐ Heavy
   ☐ Putty

26. Which of the following best describes the viscosity you most often use for the material used to syringe around the tooth? (Choose only one)

   ☐ I only do optical impressions
   ☐ Ultra-Light
   ☐ Light
   ☐ Medium
   ☐ Heavy
27. Which single choice best describes your most commonly used gingival retraction technique? (Choose only one)

☐ None
☐ Dual cord
☐ Single cord
☐ Injectable retraction material (e.g., Expasy)
☐ Dual impression (wash) technique
☐ Gingival troughing (e.g., electrical or laser tissue removal)
☐ Other, specify: ______________________

28. About what percent of the time do you use chemical agents or other devices to control hemostasis when making an impression?

|   |   |   | %

29. Who usually makes the final impression in your office? (Choose only one)

☐ You, who prepared the tooth
☐ Another dentist who did not prepare the tooth
☐ An assistant or staff member

30. Who usually makes the provisional crown in your office? (Choose only one)

☐ You, who prepared the tooth
☐ Another dentist who did not prepare the tooth
☐ An assistant or staff member
☐ Other, specify: _____________________________
31. Who usually selects the shade for posterior crowns in your office? (Choose only one)
   - [ ] You, who prepared the tooth
   - [ ] An assistant
   - [ ] Laboratory technician
   - [ ] Patient
   - [ ] Combination of dentist, assistant, patient, etc.
   - [ ] Other, specify: ____________________________

32. Who usually selects the shade for anterior crowns in your office? (Choose only one)
   - [ ] You, who prepared the tooth
   - [ ] An assistant
   - [ ] Laboratory technician
   - [ ] Patient
   - [ ] Combination of dentist, assistant, patient, etc.
   - [ ] Other, specify: ____________________________

33. Do you use photographs to communicate shade selection with your laboratory on esthetically demanding cases?
   - [ ] Yes, more than 50% of the time
   - [ ] Yes, but 50% of the time or less
   - [ ] No

34. What type of provisional material does your office typically use? (Choose only one)
   - [ ] PMMA
   - [ ] Bis-GMA (resin)
   - [ ] Prefabricated crowns
   - [ ] Other, specify: ____________________________
35. If you use a dual-arch tray for final crown impressions, select the tray that most resembles the style used in your office.
   
   a. ☐ I do not use a triple tray (dual arch) impression.

   b. ☐ Metal frame

   c. ☐ Plastic frame

36. Assume you have made the impression pictured here. What is the next step? (Choose only one)
   
   ☐ Send to the lab for crown fabrication

   ☐ Modify or remake the impression
37. Assume you have made the impression pictured here. What is the next step? (Choose only one)
   - [ ] Send to the lab for crown fabrication
   - [ ] Modify or remake the impression

38. Assume you have made the impression pictured here. What is the next step? (Choose only one)
   - [ ] Send to the lab for crown fabrication
   - [ ] Modify or remake the impression

39. Assume you have made the impression pictured here. What is the next step? (Choose only one)
   - [ ] Send to the lab for crown fabrication
   - [ ] Modify or remake the impression

40. Please consider the different techniques for obtaining the bite (Centric Jaw Relation). Rate the frequency that you use the following techniques:

   Dual-arch impression (triple tray)  
   - [ ] Frequently  
   - [ ] Sometimes  
   - [ ] Never

   PVS injectable material (e.g., Regisil or BluMousse)  
   - [ ] Frequently  
   - [ ] Sometimes  
   - [ ] Never

   Wax  
   - [ ] Frequently  
   - [ ] Sometimes  
   - [ ] Never

   Hand articulate  
   - [ ] Frequently  
   - [ ] Sometimes  
   - [ ] Never

   Optical registration  
   - [ ] Frequently  
   - [ ] Sometimes  
   - [ ] Never
41. If you are not using a dual-arch impression technique for a particular crown, how do you register the impression of the opposing arch? (Choose only one)

☐ Alginate
☐ Alginate substitute (low-cost PVS, e.g., AlgiNot)
☐ PVS
☐ Optical impression
☐ Other, specify: _____________________________

For the next five questions, use the pictures available to rate the quality of the preparation shown in the digital impression. Consider clarity of the margin, taper, smoothness of the preparation, and other such factors. Assume each tooth is prepared for a traditional PFM (porcelain-fused-to-metal) single crown. Please review the scale labels and then click the appropriate point on the scale that best describes the quality of the preparation and impression.

42.

[Images of dental impressions]

<table>
<thead>
<tr>
<th>Poor</th>
<th>Excellent</th>
</tr>
</thead>
</table>
43.

44.
47. About what percent of the time do you (or someone else in your office) trim your own dies?

|___|___|___| %

48. About what percent of the time do you use articulating paper to evaluate occlusal contacts of a crown at insertion?

|___|___|___| %

49. About what percent of the time do you use shim stock to evaluate occlusal contacts of a crown at insertion?

|___|___|___| %

50. About what percent of the time do you use the patient’s report to evaluate occlusal contacts of a crown at insertion?

|___|___|___| %

51. Which best describes the source for the majority of your single-unit crowns?

☐ A commercial laboratory
☐ An in-office technician [Skip to Q53]
☐ An in-office milling unit [Skip to Q53]

52. About how far away is the lab you most commonly use for fabricating single-unit crowns, when sending them out to a commercial lab?

|___|___|___| miles
53. Rank in order of importance the following factors which you would consider when selecting which lab to use for a single crown with 1 being the most important and 6 being the least important. Rank each of the six reasons listed below. Do not leave any blank.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rank</th>
</tr>
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<tbody>
<tr>
<td>Cost</td>
<td>___</td>
</tr>
<tr>
<td>Delivery time</td>
<td>___</td>
</tr>
<tr>
<td>Quality of fit</td>
<td>___</td>
</tr>
<tr>
<td>Esthetics</td>
<td>___</td>
</tr>
<tr>
<td>Pick up/ Ease of shipping</td>
<td>___</td>
</tr>
<tr>
<td>Relationship with lab/ customer service</td>
<td>___</td>
</tr>
<tr>
<td>Other, specify: ______________________</td>
<td>___</td>
</tr>
</tbody>
</table>

54. Completing this Stage 1 questionnaire may make you eligible to be selected for Stage 2. Stage 2 is a clinical study designed to understand factors that contribute to the clinical acceptability of single-unit crowns. Dentists will enroll 20 patients prior to having a crown preparation for a single-unit crown, record the materials and techniques they use for crown preparation and then insertion, and report patient characteristics. Dentists will also be required to involve their dental laboratory(ies) in the study. The dental lab technician who fabricates your study crowns will be asked to anonymously record information about the quality of the preparation(s) and impression(s). To be eligible, you must meet these criteria:

- Verify that your dental Laboratory(ies) agree(s) to participate;
- Deliver **seven** or more single-unit crowns in a typical month; and
- Willing to complete the following requirements, which are mandatory for all National Network clinical studies:
  - Have viewed the network orientation video on the network’s website or have attended at least one network regional meeting no later than **<<Date to be inserted in DD MMM YYYY format here>>**; and
  - Be certified in Human Subjects Protection Training and have completed your region’s Institutional Review Board (IRB) requirements no later than **<<Date to be inserted in DD MMM YYYY format here>>**.

If you have any questions about these requirements, you can contact your Regional Coordinator, whose contact information is listed at [http://nationaldentalpbrn.org/contact.php](http://nationaldentalpbrn.org/contact.php).

Knowing these requirements, are you interested in participating in Stage 2 of the study?

☐ Yes, I am interested if my practice is selected.

☐ Not sure, but feel free to contact me with additional details.

☐ No; please do not contact me about Stage 2.
55. Would you like us to send you or your practice organization $75 as a thank you for completing this survey?

☐ Yes, please send compensation
☐ No

Thank you for completing this questionnaire.