

2020

# Assessment of Clinical Skills Protocol

Approved May 2020

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The Assessment of Clinical Skills (ACS) Protocol contains important information regarding the ACS. This document should be read carefully. In the event of any discrepancies between documents or the NDEB website, the information found in the ACS Protocol will prevail.

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## Purpose

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The purpose of the Assessment of Clinical Skills (ACS) is to assess clinical competence. During the two-day ACS, you will perform 12 dental procedures on simulated patients (manikins) in a clinical setting. You must perform all procedures as if you were working with actual patients. You are required to use your judgment and follow accepted clinical care guidelines and standards.

## Schedule

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You must complete the online clinic and equipment orientation prior to check-in. You will be notified when the orientation is available.

Day 1	Time
Check-in	7:30 a.m.
Setup	8:30 a.m.
Clinical procedures on simulated patients	9:00 a.m. to 4:45 p.m.*

  

Day 2	Time
Check-in	7:00 a.m.
Setup	8:00 a.m.
Clinical procedures on simulated patients	8:30 a.m. to 4:45 p.m.*

\* Examinees who are scheduled for their dental dam requirement will finish at 5:15 p.m.

You must exit the clinic and remove all your equipment and supplies no later than 5:45 p.m. each day.

### Leaving and Re-entering the Clinic

You are encouraged to take breaks whenever needed. There is no scheduled lunch break due to physical distancing requirements and space limitations. However, 30 minutes have been included in the ACS to enable you to take a lunch break when desired. You must be mindful of physical distancing while on your break. While food and beverages must not be consumed in the clinic, you may eat and drink in the designated area outside of the clinic. You may use the washroom facilities at any time during the ACS.

## Check-in

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During check in, you will be issued an NDEB ID badge. To receive the NDEB ID badge, you must show current government issued photo identification. Acceptable forms of government issued photo identification are:

- driver's licence,
- passport, or
- provincial photo identification card.

The identification must be in English or French.

Photo identification must show your name exactly as it appears in your NDEB online profile and must not be expired. If the photo identification does not have an expiry date, it must have been issued within the last 10 years.

If you do not provide government photo identification you will not be admitted.

## Requirements

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### Restorative and Endodontic Requirements

You will be required to perform the following nine restorative and endodontic procedures on supplied typodonts:

- Class II amalgam preparation
- Class II amalgam restoration on a supplied pre-prepared tooth
- Class II composite resin restoration on a supplied pre-prepared tooth
- Class III composite resin preparation
- Class IV composite resin restoration on a supplied pre-prepared tooth
- Endodontic access preparation
- Full metal crown preparation
- Metal-ceramic crown preparation
- Provisional crown restoration for a supplied pre-prepared tooth

### Other Requirements

- Dental dam
- Infection control and safety
- Record of procedures

There may be some variation to this list of requirements. All requirements are selected to evaluate acceptable clinical skills and techniques relevant to current Canadian standards.

Each day, you will receive the following documentation:

- List of teeth for practice preparations.
- List of requirements, dental dam instructions, and scheduling information.
- Signs to indicate the "operating area" and "storage area".
- Communication Form. This may be used to provide comments and must be completed during examination time. All comments must be included on the Communication Form. Comments sent by email following the administration of the examination will not be addressed.

## Equipment, Instruments, and Supplies

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The dental clinic at the NDEB examination centre will provide the following items:

- a typodont mounted in a manikin on a dental chair (the typodont will be labeled with your ID number)
- an overhead dental operating light
- an operator stool
- saliva ejectors
- air/water syringe tips
- high volume suction tips
- amalgam waste and sharps disposal containers
- amalgamators (Due to COVID-19, you are strongly encouraged to provide your own amalgamator.)

You must supply all other equipment, instruments, and supplies needed to complete the required procedures, including but not limited to:

- handpieces and burs
- curing lights
- all restorative materials including amalgam, composite resin and provisional crown materials
- gloves, masks, and protective eyewear
- dental hand instruments
- dental dam, frames, clamps, forceps, and dental floss
- materials to place and finish restorative materials (matrix bands, matrix holders, wedges, polishing supplies, etc.)
- hand sanitizer

You are responsible for your own instruments and supplies. The NDEB and examination centre will not be held responsible for instruments or personal supplies left unattended.

Invigilators will be present to ensure that the protocol is followed. If a problem occurs with the supplied equipment (including the typodonts and heads), you must inform an invigilator immediately. Time delays will be noted on your Time Delay Form posted in your operatory. A time extension will be given if you experience a cumulative delay of 5 minutes or more.

No time extensions are given for:

- problems with your personal equipment
- tightening or repositioning teeth

Information regarding handpiece configuration (connectors) and pre-set air pressure at each centre is available on the [NDEB website](#). The air pressure delivery to handpieces is set to that used in dental practice and university clinics in Canada and will not be altered.

## Typodonts and Teeth

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The NDEB uses the series 200 typodont (D95SDP-200-GSF-OCC) and simulated teeth from Kilgore International  
Website: [Kilgore International, Inc.](#)  
Phone: 1-800-892-9999

Series A21-200 pre-prepared teeth will be provided for the:

- Class II amalgam restoration
- Class IV composite resin restoration
- Class II composite resin restoration
- Provisional crown restoration

Series S12-200 teeth with simulated enamel, dentin and pulp will be provided for the:

- Endodontic access preparation

Simulated enamel and dentin:

The simulated enamel and dentin in the crown of the teeth are white in colour and are made of a uniform composite resin material with no demarcation between the simulated enamel and dentin. The simulated dentin in the root of the teeth is made of clear resin. The teeth have been manufactured so that procedures may be performed using normal pressure with a dental bur and, if desired, finishing can be done using normal pressure with sharp hand instruments. Fractures may occur if an attempt is made to remove a large section of tooth structure, or if excessive force or dull instruments are used.

Simulated pulp chamber and canals:

The simulated dental pulp chamber and canals are hollow spaces lined with red colouring.

Series A5AN-200 permanent replacement teeth will be provided for the:

- Full metal crown preparation
- Metal-ceramic crown preparation

The permanent replacement teeth are white in colour and are made of a uniform melamine material.

Series A27-200 teeth with simulated enamel, dentin and caries will be provided for the:

- Class II amalgam preparation
- Class III composite resin preparation

Simulated enamel:

The simulated enamel is white in colour and is made of composite resin that is harder than the simulated dentin and simulated caries. The teeth have been manufactured so that procedures may be performed using normal pressure with a dental bur and, if desired, finishing can be done using normal pressure with sharp hand instruments. Fractures may occur if an attempt to remove a large section of enamel is made, or if excessive force or dull instruments are used.

Simulated dentin:

The simulated dentin is yellow in color and is softer than the simulated enamel.

Simulated caries:

The NDEB uses custom caries teeth. The simulated caries in dentin is orange in colour. In anterior teeth, there is also a cavitation (hole) in the simulated enamel on the proximal surface. This cavitation extends through the simulated enamel into the simulated dentin and must be included as part of the preparation.

As a result of the manufacturing process, there is a small cement-filled space between the simulated enamel and the simulated dentin which may appear grey in colour. This is not simulated caries.

## Information for Examinees

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1. If you arrive late you will not be given extra time.
2. The list of requirements for each day will be distributed at the ACS start time.
3. You may perform the requirements for the day in any sequence, except for the dental dam, provisional crown, and the record of procedures requirements.
4. Grading criteria will be provided to you on Day 1 and Day 2. Protocols will be available onsite for consultation.
5. Your ability to read, interpret, and comply with instructions and other written material is part of the ACS.
6. ACS supervisors and invigilators will not answer questions involving ACS content.
7. ACS supervisors and invigilators may ask you questions related to the ACS.
8. Clinical attire (eg. scrubs) is required but will not be assessed.
9. Open toed and perforated shoes must not be worn in clinics for safety reasons.
10. You must not share dental instruments and dental materials with other examinees due to COVID-19.
11. You are permitted to use any method you wish to smooth or polish amalgam restorations as long as the method could be used in treating actual patients in the time frame of the ACS.
12. Magnification aids are permitted.
13. It is not necessary to use the dental dam to perform any of the restorative or endodontic requirements.
14. If not specified, the margin you choose must be one that meets the requirements of the restorative material used at the margin.
15. The use of metal hand instruments in cavity preparations will leave a grey stain.
16. If used with excessive force, mechanical tooth separators and interproximal wedges may loosen or cause fractures to the simulated teeth.
17. You must leave your work areas clean at the end of each day. Barriers applied for Day 1 may be left in place for Day 2. There is no need to change barriers between requirements.
18. You are financially responsible for any damage caused to supplied equipment.
19. NDEB examiners use magnification and several methods of measuring such as periodontal probes (Hu-Friedy QOW6) with millimeter markings, flexible clearance tabs, convergence gauges, and surveyors.

The NDEB has made every effort to create a low-stress environment; however, minor delays are inevitable. It is recommended that you establish stress-management strategies prior to the examination.

## Regulations

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All examinees attending the ACS must comply with the following regulations.

1. Cell phones and smart watches are prohibited in the clinic. Only analog watches are permitted.
2. Devices with recording abilities such as radios, cameras, cell phones, smart watches, computers, or other electronic aids and devices are prohibited in the clinic.
3. Family or friends are not permitted in the examination centre.
4. You must have your ID card and ID badge visible at all times and must return them as directed at the end of each day of the ACS.
5. You are only permitted to use instruments, devices, products, techniques, and materials acceptable, approved, and consistent with dental treatment on patients. For example, you should only use sterilizable or commonly disposable items intraorally.
6. You are not permitted to:
  - a. remove teeth or alter the position of teeth in the typodont.
  - b. remove the typodont from the manikin.
  - c. move the torso of the manikin.
  - d. have extra typodonts or extra typodont teeth in the clinic.
  - e. work on any requirement teeth or use any material in the typodont during setup.
  - f. share impressions.
  - g. remove any ACS materials (including written documents) from the clinic.
7. Impressions, stents, crown forms, and templates made of any materials are prohibited except for items listed in the following section "Requirement Specific Information and Regulations".
8. The following are prohibited in the clinic:
  - a. printed materials or hand-written notes
  - b. cheek retractors
  - c. endodontic drilling guides
9. You are not permitted to glue fractured teeth. All fractured teeth must be reported to invigilators. Intentionally damaging teeth is misconduct.
10. You must submit your record of procedures requirement by 9:00 a.m. on Day 2.
11. You must submit your provisional crown requirement by 11:30 a.m. on Day 2 unless you are performing the dental dam requirement on the morning of Day 2. In this case, you must submit your provisional crown requirement by 12:15 p.m.
12. You must stop working on the dental dam requirement at the indicated end time.
13. You must stop working at the indicated end times of the ACS.
14. You must leave the clinic when asked to by invigilators.
15. You must not discuss or share information about ACS requirements during or after the ACS.

## Requirement Specific Information and Regulations

Metal ceramic crown preparation:

- The use of reduction guides fabricated on site during the examination time is permitted.

Class III composite resin preparation:

- The evaluation of the preparations will consider the extent of the caries present.

Class II composite resin restoration:

- Shade matching is not part of the evaluation.
- Freehand technique is the only acceptable technique. Impressions, stents, crown forms, and templates made of any materials are prohibited.

Class IV composite resin restoration:

- Shade matching is not part of the evaluation.
- Freehand technique is the only acceptable technique. Impressions, stents, crown forms, and templates made of any materials are prohibited.

Class II amalgam preparation:

- The evaluation of the preparations will consider the extent of the caries present.

Full metal crown preparation:

- The use of reduction guides fabricated on site during the examination time is permitted.

Provisional crown restoration:

- The provisional crown restoration is performed on Day 2 of the ACS. A series 200 study model with the unprepared tooth will be provided on Day 2.
- You may submit the provisional crown requirement prior to the submission deadline.
- Once submitted to an invigilator, the provisional crown will not be returned to you. You may continue working on the other requirements immediately.
- The use of a putty impression, stent, or template fabricated on site during the examination time on Day 2 is permitted.

Record of procedures:

- Abbreviations can be used provided they meet North American standards, such as can be found at [ADA.org: Dental Abbreviations, Symbols and Acronyms](https://ada.org: Dental Abbreviations, Symbols and Acronyms).
- Draft notes can be made on the back of the Record of Procedures Form or the Requirements sheets.
- The date recorded on the Record of Procedures Form should be the date the record of procedures is completed.
- Dental regulatory authorities require that the dentist's signature be located immediately adjacent to the last entry on the Record of Procedure. For the ACS, to preserve anonymity, you must enter your NDEB ID number, instead of your signature, adjacent to the last entry in each requirement on the Record of Procedures Form.
- You may submit the record of procedures requirement prior to the submission deadline.
- Once submitted to an invigilator, the Record of Procedures Form will not be returned to you. You may continue working on the other requirements immediately.

#### Dental dam:

- You will have an assigned day and time to complete the dental dam requirement. You will find this information on your ID Card located in your assigned operator.
- Floss, small pieces of dental dam, wedges, Wedjets®, "O" rings or other similar materials can be used as ligatures for the dental dam requirement.
- The use of "Cushee" cushions is permitted.

#### Infection control and safety:

- Any surfaces or items that can be disinfected or sterilized do not require barriers.
- Barriers must be applied during setup or examination time. Applying barriers to personal supplies and equipment prior to entering the clinic is not permitted.
- Before the end of the ACS on Day 2, you must remove all barriers (paper, sticky and non-sticky barriers, not including headrest covers) from the supplied equipment to prepare the operator for the next patient. This must be completed during examination time.

## Misconduct

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You must maintain the confidentiality of all NDEB content. You cannot discuss your examination with others or communicate about questions or answers before, during or after an examination.

If at any time you are suspected of compromising the security of the examination, including not complying with the regulations, you will be subject to the NDEB's By-laws regarding misconduct. Additional information on [misconduct](#) can be found on the NDEB website.

## Resources

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The FDI two-digit tooth numbering system below is used for all examinations.

### **FDI / UNIVERSAL NUMBERING SYSTEM**

#### **PERMANENT DENTITION**

	<b>FDI</b>	<b>1.8</b>	<b>1.7</b>	<b>1.6</b>	<b>1.5</b>	<b>1.4</b>	<b>1.3</b>	<b>1.2</b>	<b>1.1</b>		<b>2.1</b>	<b>2.2</b>	<b>2.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.6</b>	<b>2.7</b>	<b>2.8</b>	<b>FDI</b>
Universal		1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16	Universal
Universal		32	31	30	29	28	27	26	25		24	23	22	21	20	19	18	17	Universal
	<b>FDI</b>	<b>4.8</b>	<b>4.7</b>	<b>4.6</b>	<b>4.5</b>	<b>4.4</b>	<b>4.3</b>	<b>4.2</b>	<b>4.1</b>		<b>3.1</b>	<b>3.2</b>	<b>3.3</b>	<b>3.4</b>	<b>3.5</b>	<b>3.6</b>	<b>3.7</b>	<b>3.8</b>	<b>FDI</b>
		<b>RIGHT</b>									<b>LEFT</b>								

#### **PRIMARY DENTITION**

	<b>FDI</b>	<b>5.5</b>	<b>5.4</b>	<b>5.3</b>	<b>5.2</b>	<b>5.1</b>		<b>6.1</b>	<b>6.2</b>	<b>6.3</b>	<b>6.4</b>	<b>6.5</b>	<b>FDI</b>
Universal		A	B	C	D	E		F	G	H	I	J	Universal
Universal		T	S	R	Q	P		O	N	M	L	K	Universal
	<b>FDI</b>	<b>8.5</b>	<b>8.4</b>	<b>8.3</b>	<b>8.2</b>	<b>8.1</b>		<b>7.1</b>	<b>7.2</b>	<b>7.3</b>	<b>7.4</b>	<b>7.5</b>	<b>FDI</b>
		<b>RIGHT</b>							<b>LEFT</b>				

# Grading of Requirements

## Restorative and Endodontic Requirement Grading Descriptions

The restorative and endodontic requirements are graded using the four-point grading system below.

Grade	Description	
<b>A+</b>	Excellent	Optimal. No errors.
<b>A</b>	Acceptable	Improvements could be made but clinical outcome not affected.
<b>D</b>	Errors present	Errors must be corrected to achieve an acceptable clinical outcome and/or Overpreparation, underpreparation, or tissue trauma as defined in the criteria.
<b>E</b>	Errors present	Errors are correctable, but indicate significant lack of clinical skills or judgement and/or Errors are not correctable and compromise clinical outcome and/or Errors requiring alternative treatment (e.g. more extensive restoration, extraction, RCT) and/or Overpreparation, underpreparation, or tissue trauma as defined in the criteria.

## Grading of Restorative and Endodontic Requirements

Each restorative and endodontic requirement is evaluated based on three criteria. Each criterion is assigned a grade. The requirement grade for the restorative and endodontic requirements is determined using the table below.

Criteria Grades	Requirement Grade
2 A+ and no D or E	<b>A+</b>
No more than 1 D and no E	<b>A</b>
2 D and no E	<b>D</b>
1 or more E or 3 D	<b>E</b>

## Grading of the Dental Dam Requirement

The dental dam requirement grade is determined by the number of errors using the table below.

Number of Errors	Requirement Grade
No errors	<b>A+</b>
1 or more errors in the A section of the criteria	<b>A</b>
1 or 2 errors in the D section of the criteria	<b>D</b>
3 or more errors in the D section of the criteria or 1 or more errors in the E section of the criteria	<b>E</b>

## Grading of the Infection Control and Safety Requirement

The infection control and safety requirement grade is determined by the number of infection control and safety violations using the table below.

Number of Violations	Requirement Grade
No infection control and safety violations	A+
1 infection control and safety violation	A
2 infection control and safety violations	D
3 or more infection control and safety violations	E

## Grading of the Record of Procedures Requirement

The record of procedures requirement grade is determined by the number of errors using the table below.

Number of Errors	Requirement Grade
No errors	A+
1 error	A
2 or 3 errors	D
More than 3 errors or no entries	E

## ACS Results

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ACS results are determined by the 12 requirement grades using the table below.

Requirement Grades			ACS Result
<b>A+/A</b>	<b>D</b>	<b>E</b>	
12			<b>Pass</b>
11	1		<b>Pass</b>
11		1	<b>Pass</b>
10	2		<b>Pass</b>
10	1	1	<b>Pass</b>
9	3		<b>Pass</b>
9	2	1	<b>Pass</b>
8	4		<b>Pass</b>
Any other combination			<b>Fail</b>

### Report of Results

You will receive a pass or fail result and a grade for each requirement.

The results of the ACS will normally be released according to the following schedule:

- June ACS – Minimum of 6 weeks following the ACS
- December ACS – Minimum of 10 weeks following the ACS

Email notification will be sent when results are available in your online profile. Results will not be released by telephone, email, or fax.

## Test Accommodations

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Test accommodations are granted on an individual basis and are dependent on the nature and extent of the request, documentation provided, and requirements of the examination. Read the NDEB's policies and procedures for [test accommodations](#) on the NDEB website.

## Appeals

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If you have received a failing grade on the ACS, you have up to three months from the date the results are released to make a written submission to the Board requesting to have the results changed.

Additional details can be found on the [NDEB website](#).

## Compassionate Appeals

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Compassionate appeals must be submitted in writing within seven days of the examination to [info@ndeb-bned.ca](mailto:info@ndeb-bned.ca).

Information regarding [compassionate appeals](#) can be found on the NDEB website and in the [NDEB By-laws](#).

## Repeats

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Each of the NDEB's examinations can be taken three times, except for the DSCKE which can be taken twice.

# Criteria



# Criteria

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## Critical Errors

Critical errors automatically result in an E grade for the associated requirement.

### Metal-ceramic crown preparation

- Unable to evaluate due to obstruction of assessment tooth
- No preparation performed
- Wrong tooth prepared

### Class III composite resin preparation

- Unable to evaluate due to obstruction of assessment tooth
- No preparation performed
- Wrong tooth prepared
- Incorrect surface prepared

### Class II amalgam restoration

- Unable to evaluate due to obstruction of assessment tooth
- No or incomplete restoration

### Class II composite resin restoration

- Unable to evaluate due to obstruction of assessment tooth
- No or incomplete restoration

### Endodontic access preparation

- Unable to evaluate due to obstruction of assessment tooth
- No access performed
- Wrong tooth accessed

### Class IV composite resin restoration

- Unable to evaluate due to obstruction of assessment tooth
- No or incomplete restoration

### Class II amalgam preparation

- Unable to evaluate due to obstruction of assessment tooth
- No preparation performed
- Wrong tooth prepared

### Full metal crown preparation

- Unable to evaluate due to obstruction of assessment tooth
- No preparation performed
- Wrong tooth prepared

### Provisional crown restoration

- Unable to evaluate due to obstruction of assessment tooth
- No provisional crown
- Restoration cannot be seated

### Record of procedures

- No record of procedures

### Dental dam application

- Dam not placed in allotted time

## Metal-ceramic Crown Preparation for a Maxillary Anterior Tooth

Clearance for occlusion will be measured from opposing teeth in maximal intercuspation. The labial margin must be 90°.

		Criteria		
		Path of Draw and Axial Convergence	Preservation of Tooth Vitality and Structural Durability	Finish and Margin
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Preparation allows the fabrication of a restoration with optimal retention and contour</li> <li>No undercuts</li> <li>Axial convergence: 6° - 10°</li> </ul>	<ul style="list-style-type: none"> <li>Optimal preparation has been performed to permit the fabrication of an esthetic and functional restoration</li> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and distal: 1.2mm</li> <li>Lingual (gingival to cingulum): 0.5mm</li> </ul> </li> <li>Incisal reduction: 2.0mm</li> <li>Clearance for occlusion (lingual concavity): 1.0mm - 1.5mm</li> <li>Preparation has no sharp line angles</li> <li>No damage to adjacent teeth</li> </ul>	<ul style="list-style-type: none"> <li>Margin is optimally placed, defined and identifiable</li> <li>Margin is smooth, continuous and has no steps</li> <li>Margin is positioned 0.5mm supragingival</li> <li>Preparation walls are smooth</li> <li>No damage to soft tissue</li> <li>Preparation is free of debris</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor undercuts</li> <li>Axial convergence: 11° - 20°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: &gt; 1.2mm - 1.5mm</li> <li>Lingual (gingival to cingulum): &gt; 0.5mm - 0.8mm</li> </ul> </li> <li>Incisal reduction: &gt; 2.0mm - 2.5mm</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> </ul>	<ul style="list-style-type: none"> <li>Margin is continuous with minor irregularity</li> <li>Located supragingival: &lt; 0.5mm or &gt; 0.5mm - 1.0mm</li> <li>Located subgingival: &lt; 0.5mm</li> <li>Minor damage to soft tissue</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Will not draw, modification required</li> <li>Axial convergence: 21° - 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: 0.5mm - &lt; 1.2mm or &gt; 1.5mm - 2.5mm</li> <li>Lingual (gingival to cingulum): &gt; 0.8mm - 1.1mm</li> </ul> </li> <li>Incisal reduction: 1.0mm - &lt; 2.0mm or &gt; 2.5mm - 3.0mm</li> <li>Clearance for occlusion (lingual concavity): 0.5mm - &lt; 1.0mm or &gt; 1.5mm - 2.0mm</li> <li>Sharp line angle</li> <li>Minor damage to adjacent tooth</li> </ul>	<ul style="list-style-type: none"> <li>Indistinct</li> <li>Discontinuous</li> <li>Rough</li> <li>Incorrect margin type for material</li> <li>Unsupported enamel (lipping)</li> <li>Located supragingival: &gt; 1.0mm - 2.0mm</li> <li>Located subgingival: &gt; 0.5mm - 1.0mm</li> <li>Unacceptable roughness on axial walls</li> <li>Moderate damage to soft tissue</li> <li>Debris</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Will not draw, major modification required</li> <li>Axial convergence: &gt; 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: &lt; 0.5mm or &gt; 2.5mm</li> <li>Lingual (gingival to cingulum): &lt; 0.5mm or &gt; 1.1mm</li> </ul> </li> <li>Incisal reduction: &lt; 1.0mm or &gt; 3.0mm</li> <li>Clearance for occlusion (lingual concavity): &lt; 0.5mm or &gt; 2.0mm</li> <li>Excessive damage to adjacent tooth</li> <li>Tooth structure rebuilt with composite resin</li> <li>Alternate preparation or RCT needed</li> </ul>	<ul style="list-style-type: none"> <li>Excessively indistinct</li> <li>Excessively discontinuous</li> <li>Excessively rough</li> <li>No discernible margin</li> <li>Excessive unsupported enamel (lipping)</li> <li>Located supragingival: &gt; 2.0mm</li> <li>Located subgingival: &gt; 1.0mm</li> <li>Excessive damage to soft tissue</li> <li>Excessive debris</li> </ul>

## Metal-ceramic Crown Preparation for a Mandibular Canine Tooth

Clearance for occlusion will be measured from opposing teeth in maximal intercuspation. The labial margin must be 90°.

		Criteria		
		Path of Draw and Axial Convergence	Preservation of Tooth Vitality and Structural Durability	Finish and Margin
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Preparation allows the fabrication of a restoration with optimal retention and contour</li> <li>No undercuts</li> <li>Axial convergence: 6° - 10°</li> </ul>	<ul style="list-style-type: none"> <li>Optimal preparation has been performed to permit the fabrication of an esthetic and functional restoration</li> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and distal: 1.2mm</li> <li>Lingual (gingival to cingulum): 0.5mm</li> <li>Lingual (incisal to cingulum): 0.6mm - 1.2mm</li> </ul> </li> <li>Incisal reduction: 2.0mm</li> <li>Preparation has no sharp line angles</li> <li>No damage to adjacent teeth</li> </ul>	<ul style="list-style-type: none"> <li>Margin is optimally placed, defined and identifiable</li> <li>Margin is smooth, continuous and has no steps</li> <li>Margin is positioned 0.5mm supragingival</li> <li>Preparation walls are smooth</li> <li>No damage to soft tissue</li> <li>Preparation is free of debris</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor undercuts</li> <li>Axial convergence: 11°- 20°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: &gt; 1.2mm - 1.5mm</li> <li>Lingual (gingival to cingulum): &gt; 0.5mm - 0.8mm</li> </ul> </li> <li>Incisal reduction: &gt; 2.0mm - 2.5mm</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> </ul>	<ul style="list-style-type: none"> <li>Margin is continuous with minor irregularity</li> <li>Located supragingival: &lt; 0.5mm or &gt; 0.5mm - 1.0mm</li> <li>Located subgingival: &lt; 0.5mm</li> <li>Minor damage to soft tissue</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Will not draw, modification required</li> <li>Axial convergence: 21°- 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: 0.5mm - &lt; 1.2mm or &gt; 1.5mm - 2.5mm</li> <li>Lingual (gingival to cingulum): &gt; 0.8mm - 1.1mm</li> </ul> </li> <li>Incisal reduction: 1.0mm - &lt; 2.0mm or &gt; 2.5mm - 3.0mm</li> <li>Sharp line angle</li> <li>Minor damage to adjacent tooth</li> </ul>	<ul style="list-style-type: none"> <li>Indistinct</li> <li>Discontinuous</li> <li>Rough</li> <li>Incorrect margin type for material</li> <li>Unsupported enamel (flipping)</li> <li>Located supragingival: &gt; 1.0mm - 2.0mm</li> <li>Located subgingival: &gt; 0.5mm - 1.0mm</li> <li>Unacceptable roughness on axial wall</li> <li>Moderate damage to soft tissue</li> <li>Debris</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Will not draw, major modification required</li> <li>Axial convergence: &gt; 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: &lt; 0.5mm or &gt; 2.5mm</li> <li>Lingual (gingival to cingulum): &lt; 0.5mm or &gt; 1.1mm</li> <li>Lingual (incisal to cingulum): &lt; 0.6mm or &gt; 1.2mm</li> </ul> </li> <li>Incisal reduction: &lt; 1.0mm or &gt; 3.0mm</li> <li>Excessive damage to adjacent tooth</li> <li>Tooth structure rebuilt with composite resin</li> <li>Alternate preparation or RCT needed</li> </ul>	<ul style="list-style-type: none"> <li>Excessively indistinct</li> <li>Excessively discontinuous</li> <li>Excessively rough</li> <li>No discernible margin</li> <li>Excessive unsupported enamel (flipping)</li> <li>Located supragingival: &gt; 2.0mm</li> <li>Located subgingival: &gt; 1.0mm</li> <li>Excessive damage to soft tissue</li> <li>Excessive debris</li> </ul>

## Metal-ceramic Crown Preparation for a Premolar or Molar Tooth

Clearance for occlusion will be measured from opposing teeth in maximal intercuspation. The labial margin must be 90°.

		Criteria		
		Path of Draw and Axial Convergence	Preservation of Tooth Vitality and Structural Durability	Finish and Margin
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Preparation allows the fabrication of a restoration with optimal retention and contour</li> <li>No undercuts</li> <li>Axial convergence: 6° - 10°</li> </ul>	<ul style="list-style-type: none"> <li>Optimal preparation has been performed to permit the fabrication of an esthetic and functional restoration</li> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and distal: 1.2mm</li> <li>Lingual: 0.5mm</li> </ul> </li> <li>Clearance for occlusion: 1.5mm - 2.0mm</li> <li>Preparation has no sharp line angles</li> <li>No damage to adjacent teeth</li> </ul>	<ul style="list-style-type: none"> <li>Margin is optimally placed, defined and identifiable</li> <li>Margin is smooth, continuous and has no steps</li> <li>Margin is positioned 0.5mm supragingival</li> <li>Preparation walls are smooth</li> <li>No damage to soft tissue</li> <li>Preparation is free of debris</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor undercuts</li> <li>Axial convergence: 11° - 20°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: &gt; 1.2mm - 1.5mm</li> <li>Lingual: 0.1mm - &lt; 0.5mm or &gt; 0.5mm - 1.0mm</li> </ul> </li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> </ul>	<ul style="list-style-type: none"> <li>Margin is continuous with minor irregularity</li> <li>Located supragingival: &lt; 0.5mm or &gt; 0.5mm - 1.0mm</li> <li>Located subgingival: &lt; 0.5mm</li> <li>Minor damage to soft tissue</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Will not draw. Modification required</li> <li>Axial convergence: 21° - 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: 0.5mm - &lt; 1.2mm or &gt; 1.5mm - 2.5mm</li> <li>Lingual: &gt; 1.0mm - 1.2mm</li> </ul> </li> <li>Clearance for occlusion: 1.0mm - &lt; 1.5mm or &gt; 2.0mm - 2.5mm</li> <li>Sharp line angle</li> <li>Minor damage to adjacent tooth</li> </ul>	<ul style="list-style-type: none"> <li>Indistinct</li> <li>Discontinuous</li> <li>Rough</li> <li>Incorrect margin type for material</li> <li>Unsupported enamel (lipping)</li> <li>Located supragingival: &gt; 1.0mm - 2.0mm</li> <li>Located subgingival: &gt; 0.5mm - 1.0mm</li> <li>Unacceptable roughness on axial wall</li> <li>Moderate damage to soft tissue</li> <li>Debris</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Will not draw. Major modification required</li> <li>Axial convergence: &gt; 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction:                             <ul style="list-style-type: none"> <li>Labial, mesial, and/or distal: &lt; 0.5mm or &gt; 2.5mm</li> <li>Lingual: &gt; 1.2mm</li> </ul> </li> <li>Clearance for occlusion: &lt; 1.0mm or &gt; 2.5mm</li> <li>Excessive damage to adjacent tooth</li> <li>Tooth structure rebuilt with composite resin</li> <li>Alternate preparation or RCT needed</li> </ul>	<ul style="list-style-type: none"> <li>Excessively indistinct</li> <li>Excessively discontinuous</li> <li>Excessively rough</li> <li>No discernible margin</li> <li>Excessive unsupported enamel (lipping)</li> <li>Located supragingival: &gt; 2.0mm</li> <li>Located subgingival: &gt; 1.0mm</li> <li>Excessive damage to soft tissue</li> <li>Excessive debris</li> </ul>

## Class III Composite Resin Preparation

The criteria below describe a preparation for a tooth with minimal caries. Because the NDEB varies the size and location of caries for each examination, the evaluation of the preparation will consider the extent of caries present in the assessment tooth.

		Criteria		
		External Outline Form	Internal Form	Finish
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Optimal extension based on location and extent of caries present</li> <li>Gingival margin supragingival</li> <li>No damage to adjacent teeth, assessment tooth beyond preparation or soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Optimal resistance and retention form based on location and extent of caries present with no unnecessary removal of internal tooth structure</li> </ul>	<ul style="list-style-type: none"> <li>No debris or caries</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor overextension</li> <li>Minor underextension</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> <li>Minor damage to assessment tooth beyond preparation margin corrected by enameloplasty</li> <li>Minor damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Minor overpreparation</li> <li>Minor underpreparation</li> </ul>	
	<b>D</b>	<ul style="list-style-type: none"> <li>Minor damage to adjacent tooth</li> <li>Minor damage to assessment tooth beyond preparation margin</li> <li>Moderate damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Too deep: 2.0mm - 3.0mm</li> <li>Unacceptable underpreparation</li> <li>Unnecessary removal of internal tooth structure</li> </ul>	<ul style="list-style-type: none"> <li>Debris</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Underextended: &gt; 0.5mm</li> <li>Overextended: &gt; 0.5mm</li> <li>Cavitation not included</li> <li>Excessive damage to adjacent tooth</li> <li>Excessive damage to assessment tooth beyond preparation margin</li> <li>Excessive damage to soft tissue</li> <li>Tooth structure rebuilt with composite resin</li> </ul>	<ul style="list-style-type: none"> <li>Too deep: &gt; 3.0mm</li> <li>Excessive underpreparation</li> <li>Excessive overpreparation, alternate design or RCT required</li> <li>Tooth structure rebuilt with composite resin</li> </ul>	<ul style="list-style-type: none"> <li>Excessive debris</li> <li>Caries remaining on axial</li> <li>Caries remaining at dentinoenamel junction</li> </ul>

## Class II Amalgam Restoration

		Criteria		
		Surface Quality and Morphology	Margin	Contours and Function
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Optimal</li> </ul>	<ul style="list-style-type: none"> <li>Junction of tooth/restoration not detectable</li> <li>No debris/loose amalgam in soft tissue</li> <li>No damage to adjacent teeth, assessment tooth or soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Physiologic tooth contours of proximal surfaces optimally restored</li> <li>Optimal proximal contact restored</li> <li>Optimal occlusal contact</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor undercontour (occlusal surface only)</li> <li>Minor overcontour (occlusal surface only)</li> </ul>	<ul style="list-style-type: none"> <li>Margin slightly detectable</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> <li>Minor damage to assessment tooth corrected by enameloplasty</li> <li>Minor damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: &lt; 0.5mm (axial surface only)</li> <li>Overcontoured: &lt; 0.5mm (axial surface only)</li> <li>Proximal contact slightly too occlusal</li> <li>Proximal contact slightly too gingival</li> <li>Proximal contact slightly too broad</li> <li>Marginal ridge disharmony: &lt; 0.5mm</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Moderate undercontour (occlusal surface only)</li> <li>Moderate overcontour (occlusal surface only)</li> <li>Roughness or scratches requiring correction</li> <li>Poor occlusal morphology</li> </ul>	<ul style="list-style-type: none"> <li>Amalgam beyond preparation margin requiring correction: ≤ 0.5mm</li> <li>Disharmony of amalgam-enamel margin: ≤ 0.5mm</li> <li>Debris/loose amalgam in soft tissue</li> <li>Minor damage to adjacent tooth</li> <li>Minor damage to assessment tooth</li> <li>Moderate damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: 0.5mm - 1.0mm (axial surface only)</li> <li>Overcontoured: 0.5mm - 1.0mm (axial surface only)</li> <li>Light proximal contact</li> <li>Proximal contact too occlusal</li> <li>Proximal contact too gingival</li> <li>Proximal contact too broad</li> <li>Proximal contact too concave</li> <li>Proximal contact too small</li> <li>Proximal contact too tight</li> <li>Proximal contact too rough</li> <li>Marginal ridge disharmony: 0.5mm - 1.0mm</li> <li>Excessive occlusal contact</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Excessive undercontour (occlusal surface only)</li> <li>Excessive overcontour (occlusal surface only)</li> <li>Excessive roughness or scratches</li> <li>Deep or excessive voids other than at margin</li> <li>Inappropriate material used</li> </ul>	<ul style="list-style-type: none"> <li>Excess amalgam beyond preparation margin: &gt; 0.5mm</li> <li>Deficiency/void at margin requiring replacement of restoration</li> <li>Excessive debris/loose amalgam in soft tissue</li> <li>Excessive damage to adjacent tooth</li> <li>Excessive damage to assessment tooth</li> <li>Tooth preparation altered</li> <li>Excessive damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: &gt; 1.0mm (axial surface only)</li> <li>Overcontoured: &gt; 1.0mm (axial surface only)</li> <li>No proximal contact</li> <li>Marginal ridge disharmony: &gt; 1.0mm</li> <li>Restoration fractured or loose</li> </ul>

## Class II Composite Resin Restoration

These criteria do not include shade matching, which is NOT part of the evaluation.

		Criteria		
		Surface Quality, Finish and Morphology	Margin	Contours and Function
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Uniform polish matching tooth surface</li> <li>No contamination of resin (no stain or inclusions)</li> <li>No excess resin in/on soft tissue</li> <li>No excess resin on hard tissue</li> </ul>	<ul style="list-style-type: none"> <li>Junction of tooth/restoration not detectable</li> <li>No excess resin past preparation margin</li> <li>No damage to adjacent teeth, assessment tooth or soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Physiologic tooth contours of proximal surfaces optimally restored</li> <li>Optimal proximal contact restored</li> <li>Optimal occlusal contact</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor undercontour (occlusal surface only)</li> <li>Minor overcontour (occlusal surface only)</li> <li>Areas needing more polish</li> <li>Minor contamination of resin not affecting durability or esthetics</li> </ul>	<ul style="list-style-type: none"> <li>Junction of tooth/restoration slightly detectable</li> <li>Minor amount of resin beyond preparation margin</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> <li>Minor damage to assessment tooth corrected by enameloplasty</li> <li>Minor damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: &lt; 0.5mm (axial surface only)</li> <li>Overcontoured: &lt; 0.5mm (axial surface only)</li> <li>Proximal contact slightly too occlusal</li> <li>Proximal contact slightly too gingival</li> <li>Proximal contact slightly too broad</li> <li>Marginal ridge disharmony: &lt; 0.5mm</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Moderate undercontour (occlusal surface only)</li> <li>Moderate overcontour (occlusal surface only)</li> <li>Roughness or scratches requiring correction</li> <li>Voids or porosities</li> <li>Contamination of resin that needs correction</li> <li>Poor occlusal morphology</li> <li>Resin/debris in/on soft tissue</li> <li>Resin/debris on hard tissue</li> </ul>	<ul style="list-style-type: none"> <li>Deficiency/void at margin: ≤ 0.5mm</li> <li>Resin beyond preparation margin requiring correction</li> <li>Minor damage to adjacent tooth</li> <li>Minor damage to assessment tooth</li> <li>Moderate damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: 0.5mm - 1.0mm (axial surface only)</li> <li>Overcontoured: 0.5mm - 1.0mm (axial surface only)</li> <li>Light proximal contact</li> <li>Proximal contact too occlusal</li> <li>Proximal contact too gingival</li> <li>Proximal contact too broad</li> <li>Proximal contact too concave</li> <li>Proximal contact too small</li> <li>Proximal contact too tight</li> <li>Proximal contact too rough</li> <li>Marginal ridge disharmony: 0.5mm - 1.0mm</li> <li>Excessive occlusal contact</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Excessive undercontour (occlusal surface only)</li> <li>Excessive overcontour (occlusal surface only)</li> <li>Excessive roughness or scratches</li> <li>Excessive voids or porosities</li> <li>Excessive contamination of resin requiring replacement of entire restoration</li> <li>Incomplete polymerization</li> <li>Inappropriate material used</li> <li>Excessive resin/debris in/on soft tissue</li> <li>Excessive resin/debris on hard tissue</li> </ul>	<ul style="list-style-type: none"> <li>Deficiency/void at margin: &gt; 0.5mm</li> <li>Excessive resin beyond preparation margin</li> <li>Excessive damage to adjacent tooth</li> <li>Excessive damage to assessment tooth</li> <li>Tooth preparation altered</li> <li>Excessive damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: &gt; 1.0mm (axial surface only)</li> <li>Overcontoured: &gt; 1.0mm (axial surface only)</li> <li>Lack of physiologic contour</li> <li>No proximal contact</li> <li>Floss will not pass through proximal contact</li> <li>Marginal ridge disharmony: &gt; 1.0mm</li> <li>Restoration fractured or loose</li> </ul>

## Endodontic Access Preparation

		Criteria		
		External Outline Form	Internal Form	Finish
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Optimal extension to obtain straight line access to all canals</li> <li>Optimal removal of any unsupported structures</li> <li>No overextension</li> <li>Adequate extension to permit removal of pulp horns</li> </ul>	<ul style="list-style-type: none"> <li>Optimal internal tooth structure removed to allow straight line access to canals</li> <li>Canals accessed to a depth of 2.0mm</li> </ul>	<ul style="list-style-type: none"> <li>Optimal smoothness of walls and cavosurface</li> <li>No pulp material present on wall or floor of chamber</li> <li>No debris</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor underextension: &lt; 1.0mm</li> <li>Minor overextension: &lt; 1.0mm</li> <li>Minor damage to assessment tooth corrected by enameloplasty</li> </ul>	<ul style="list-style-type: none"> <li>Minor overpreparation</li> <li>Minor underpreparation</li> </ul>	<ul style="list-style-type: none"> <li>Minor pulp material present on wall or floor of chamber</li> <li>Minor debris present</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Underextended: obstructed access to canals</li> <li>Moderate overextension: 1.0mm - 2.0mm</li> <li>Minor damage to assessment tooth</li> </ul>	<ul style="list-style-type: none"> <li>Unacceptable overpreparation</li> <li>Unacceptable underpreparation</li> <li>Gouging of pulp chamber walls</li> <li>Canals not accessed to depth of 2.0mm</li> <li>Moderate over-instrumentation of canals</li> </ul>	<ul style="list-style-type: none"> <li>Unacceptable roughness</li> <li>Significant pulp material present on wall or floor of chamber</li> <li>Debris</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Chamber not accessed</li> <li>Excessive underextension: &gt; 2.0mm</li> <li>Excessive overextension: &gt; 2.0mm</li> <li>Tooth structure rebuilt with composite resin</li> <li>Excessive damage to assessment tooth</li> </ul>	<ul style="list-style-type: none"> <li>Excessive removal of internal tooth structure</li> <li>Perforation</li> <li>Roof of pulp chamber not removed</li> <li>Canals not accessed</li> <li>Excessive gouging of pulp chamber walls</li> <li>Excessive over-instrumentation of canals</li> <li>Separated instrument in canals</li> <li>Tooth structure rebuilt with composite resin</li> </ul>	<ul style="list-style-type: none"> <li>Excessive roughness</li> <li>Excessive pulp material present on wall or floor of chamber</li> <li>Debris obstructing chamber or canals</li> </ul>



## Class IV Composite Resin Restoration

These criteria do not include shade matching, which is NOT part of the evaluation.

		Criteria		
		Surface Quality and Finish	Margin	Contours and Function
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Uniform polish matching tooth surface</li> <li>No contamination of resin (no stains or inclusions)</li> <li>No excess resin in/on soft tissue</li> <li>No excess resin on hard tissue</li> </ul>	<ul style="list-style-type: none"> <li>Junction of tooth/restoration not detectable</li> <li>No excess beyond preparation margin</li> <li>No damage to adjacent teeth, assessment tooth or soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Physiologic tooth contours restored</li> <li>Optimal proximal contact restored</li> <li>Appropriate occlusal contact</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Areas needing more polish</li> <li>Minor contamination of resin not affecting durability or esthetics</li> </ul>	<ul style="list-style-type: none"> <li>Junction of tooth/restoration slightly detectable</li> <li>Minor excess resin beyond preparation margin</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> <li>Minor damage to assessment tooth corrected by enameloplasty</li> <li>Minor damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: &lt; 0.5mm</li> <li>Overcontoured: &lt; 0.5mm</li> <li>Proximal contact slightly too incisal</li> <li>Proximal contact slightly too gingival</li> <li>Proximal contact slightly too broad</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Roughness or scratches requiring correction</li> <li>Voids or porosities</li> <li>Contamination of resin that requires correction</li> <li>Resin/debris in/on soft tissue</li> <li>Resin/debris on hard tissue</li> </ul>	<ul style="list-style-type: none"> <li>Deficiency/void at margin: ≤ 0.5mm</li> <li>Resin beyond preparation margin requiring correction</li> <li>Minor damage to adjacent tooth</li> <li>Minor damage to assessment tooth</li> <li>Moderate damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: 0.5mm - 1.0mm</li> <li>Overcontoured: 0.5mm - 1.0mm</li> <li>Light proximal contact</li> <li>Proximal contact too incisal</li> <li>Proximal contact too gingival</li> <li>Proximal contact too broad</li> <li>Proximal contact too concave</li> <li>Proximal contact too small</li> <li>Proximal contact too tight</li> <li>Proximal contact too rough</li> <li>Excessive occlusal contact</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Excessive roughness or scratches</li> <li>Excessive voids or porosities</li> <li>Excessive contamination of resin requiring replacement of entire restoration</li> <li>Incomplete polymerization</li> <li>Inappropriate material used</li> <li>Excessive resin/debris in/on soft tissue</li> <li>Excessive resin/debris on hard tissue</li> </ul>	<ul style="list-style-type: none"> <li>Deficiency/void at margin: &gt; 0.5mm</li> <li>Excessive resin beyond preparation margin</li> <li>Excessive damage to adjacent tooth</li> <li>Excessive damage to assessment tooth</li> <li>Tooth preparation altered</li> <li>Excessive damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Undercontoured: &gt; 1.0mm</li> <li>Overcontoured: &gt; 1.0mm</li> <li>Lack of physiologic contour</li> <li>No proximal contact</li> <li>Floss will not pass through proximal contact</li> <li>Restoration fractured or loose</li> </ul>

## Class II Amalgam Preparation

The criteria below describe a preparation for a tooth with minimal caries. Because the NDEB varies the size and location of caries for each examination, the evaluation of the preparation will consider the extent of caries present in the assessment tooth.

		Criteria		
		External Outline Form	Internal Form	Finish
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Proximal and/or gingival margins clear adjacent teeth: 0.5mm</li> <li>Optimal extension based on location and extent of caries present</li> <li>Cavosurface angle 90°</li> <li>No damage to adjacent teeth, assessment tooth beyond preparation or soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Optimal resistance and retention form based on location and extent of caries present with no unnecessary removal of internal tooth structure</li> <li>Internal line angles rounded</li> </ul>	<ul style="list-style-type: none"> <li>Smooth cavosurface margins</li> <li>All unsupported enamel removed</li> <li>No debris or caries</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Proximal and/or gingival margin clears adjacent tooth: &lt; 0.5mm or &gt; 0.5mm - 1.0mm</li> <li>Minor occlusal overextension</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> <li>Minor damage to assessment tooth beyond preparation margin corrected by enameloplasty</li> <li>Minor damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Minor overpreparation occlusally</li> <li>Minor overpreparation axially</li> </ul>	
	<b>D</b>	<ul style="list-style-type: none"> <li>Proximal and/or gingival margin does not clear adjacent tooth</li> <li>Proximal and/or gingival margin clears adjacent tooth: &gt; 1.0mm - 1.5mm</li> <li>Proximal wall flared</li> <li>Unacceptable isthmus junction</li> <li>Buccal-lingual width too wide</li> <li>Buccal-lingual width too narrow</li> <li>Minor damage to adjacent tooth</li> <li>Minor damage to assessment tooth beyond preparation margin</li> <li>Moderate damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>Pulpal floor too deep: 2.5mm - 3.0mm</li> <li>Pulpal floor too shallow: 1.0mm - 1.5mm</li> <li>Axial wall too deep: 1.5mm - 3.0mm</li> <li>Axial wall too shallow: &lt; 0.5mm</li> <li>Divergent walls</li> <li>Sharp line angle</li> <li>Undefined line angle</li> </ul>	<ul style="list-style-type: none"> <li>Unacceptable roughness</li> <li>Unacceptable unsupported enamel</li> <li>Debris</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Proximal and/or gingival margin clears adjacent tooth: &gt; 1.5mm</li> <li>Excessive occlusal overextension</li> <li>Excessive occlusal underextension</li> <li>Excessive damage to adjacent tooth</li> <li>Excessive damage to assessment tooth beyond preparation margin</li> <li>Excessive damage to soft tissue</li> <li>Tooth structure rebuilt with composite resin</li> </ul>	<ul style="list-style-type: none"> <li>Pulpal floor too deep: &gt; 3.0mm</li> <li>Pulpal floor too shallow: &lt; 1.0mm</li> <li>Axial wall too deep: &gt; 3.0mm</li> <li>Excessive overpreparation, alternate design or RCT required</li> <li>Tooth structure rebuilt with composite resin</li> </ul>	<ul style="list-style-type: none"> <li>Excessive roughness</li> <li>Excessive unsupported enamel</li> <li>Excessive debris</li> <li>Caries remaining on axial or pulpal</li> <li>Caries remaining at dentinoenamel junction</li> </ul>

## Full Metal Crown Preparation

Clearance for occlusion will be measured from opposing teeth in maximal intercuspation and excursions.

		Criteria		
		Path of Draw and Axial Convergence	Preservation of Tooth Vitality and Structural Durability	Finish and Margin
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>Preparation allows the fabrication of a restoration with optimal retention and contour</li> <li>No undercuts</li> <li>Axial convergence: 6° - 10°</li> </ul>	<ul style="list-style-type: none"> <li>Optimal preparation has been performed to permit fabrication of a functional restoration</li> <li>Axial reduction: 0.5mm - 1.5mm</li> <li>Clearance for occlusion: 1.5mm</li> </ul>	<ul style="list-style-type: none"> <li>Margin optimally placed, defined, and identifiable</li> <li>Margin smooth, continuous and has no steps</li> <li>Positioned 0.5mm supragingival</li> <li>Preparation walls are smooth</li> <li>No damage to soft tissue</li> <li>Preparation is free of debris</li> <li>No sharp cusps or line angles</li> <li>No damage to adjacent teeth</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>Minor undercuts</li> <li>Axial convergence: 11° - 20°</li> </ul>	<ul style="list-style-type: none"> <li>Clearance for occlusion: 1.0mm - &lt; 1.5mm or &gt; 1.5mm - 2.0mm</li> <li>Minor damage to adjacent tooth corrected by enameloplasty</li> </ul>	<ul style="list-style-type: none"> <li>Margin continuous with minor irregularity</li> <li>Located supragingival: &lt; 0.5mm or &gt; 0.5mm - 1.0mm</li> <li>Located subgingival: &lt; 0.5mm</li> <li>Minor damage to soft tissue</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>Will not draw, modification required</li> <li>Axial convergence: 21° - 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction: &gt; 0.0mm - &lt; 0.5mm or &gt; 1.5mm - 2.0mm</li> <li>Clearance for occlusion: 0.5mm - &lt; 1.0mm or &gt; 2.0mm - 3.0mm</li> <li>Minor damage to adjacent tooth</li> </ul>	<ul style="list-style-type: none"> <li>Indistinct</li> <li>Discontinuous</li> <li>Rough</li> <li>Located supragingival: &gt; 1.0mm - 2.0mm</li> <li>Located subgingival: &gt; 0.5mm - 1.0mm</li> <li>Incorrect margin type for metal crown</li> <li>Sharp cusps</li> <li>Sharp line angles</li> <li>Unsupported enamel (lipping)</li> <li>Unacceptable roughness of axial wall</li> <li>Moderate damage to soft tissue</li> <li>Debris</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>Will not draw, major modification required</li> <li>Axial convergence: &gt; 25°</li> </ul>	<ul style="list-style-type: none"> <li>Axial reduction: no reduction or &gt; 2.0mm</li> <li>Clearance for occlusion: &lt; 0.5mm or &gt; 3.0mm</li> <li>Excessive damage to adjacent tooth</li> <li>Tooth structure rebuilt with composite resin</li> <li>Alternative preparation or RCT needed</li> </ul>	<ul style="list-style-type: none"> <li>Excessively indistinct</li> <li>Excessively discontinuous</li> <li>Excessively rough</li> <li>No discernible margin</li> <li>Located supragingival: &gt; 2.0mm</li> <li>Located subgingival: &gt; 1.0mm</li> <li>Excessive unsupported enamel (lipping)</li> <li>Excessive damage to soft tissue</li> <li>Excessive debris</li> </ul>

## Provisional Crown Restoration

		Criteria		
		Margin Contour and Adaptation	Morphology and Occlusion	Finish
<b>Grade</b>	<b>A+</b>	<ul style="list-style-type: none"> <li>• Margin not over/underextended</li> <li>• Margin not over/undercontoured</li> <li>• Restoration is stable and retentive</li> <li>• Preparation margin, adjacent teeth and soft tissue intact</li> </ul>	<ul style="list-style-type: none"> <li>• Optimal contour for gingival health and esthetics</li> <li>• Optimal interproximal contacts</li> <li>• Optimal occlusal contact</li> <li>• Optimal strength</li> <li>• Restoration can be removed</li> </ul>	<ul style="list-style-type: none"> <li>• Optimal polish</li> <li>• No roughness or porosities</li> <li>• No excess material in/on soft tissue</li> <li>• No excess material on hard tissue</li> <li>• Restoration material is hard setting, tooth-coloured plastic resin</li> </ul>
	<b>A</b>	<ul style="list-style-type: none"> <li>• Overextended: &lt; 0.5mm</li> <li>• Underextended: &lt; 0.5mm</li> <li>• Overcontoured: &lt; 0.5mm</li> <li>• Undercontoured: &lt; 0.5mm</li> <li>• Minor damage to adjacent tooth corrected by enameloplasty</li> <li>• Minor damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>• Minor overcontour</li> <li>• Minor undercontour</li> <li>• Minor infraocclusion</li> </ul>	<ul style="list-style-type: none"> <li>• Polish not optimal</li> </ul>
	<b>D</b>	<ul style="list-style-type: none"> <li>• Overextended: 0.5mm - 1.0mm</li> <li>• Underextended: 0.5mm - 1.0mm</li> <li>• Overcontoured: 0.5mm - 1.0mm</li> <li>• Undercontoured: 0.5mm - 1.0mm</li> <li>• Damage to preparation margin</li> <li>• Minor damage to adjacent tooth</li> <li>• Moderate damage to soft tissue</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate overcontour</li> <li>• Moderate undercontour</li> <li>• Proximal contact too light</li> <li>• Proximal contact too occlusal</li> <li>• Proximal contact too gingival</li> <li>• Proximal contact too tight</li> <li>• No proximal contact (<math>\leq</math> 0.5mm open)</li> <li>• Supraocclusion: <math>\leq</math> 1.0mm</li> <li>• Infraocclusion: <math>\leq</math> 1.0mm</li> <li>• Too thin, requires modification</li> </ul>	<ul style="list-style-type: none"> <li>• Unacceptable roughness</li> <li>• Porosities</li> <li>• Material in/on soft tissue</li> <li>• Material on hard tissue</li> </ul>
	<b>E</b>	<ul style="list-style-type: none"> <li>• Overextended: &gt; 1.0mm</li> <li>• Underextended: &gt; 1.0mm</li> <li>• Overcontoured: &gt; 1.0mm</li> <li>• Undercontoured: &gt; 1.0mm</li> <li>• Restoration is unstable or non-retentive</li> <li>• Excessive damage to adjacent tooth</li> <li>• Excessive damage to soft tissue</li> <li>• Tooth preparation altered</li> <li>• Needs major revision or new provisional</li> </ul>	<ul style="list-style-type: none"> <li>• Excessive overcontour</li> <li>• Excessive undercontour</li> <li>• No proximal contact (&gt; 0.5mm open)</li> <li>• Supraocclusion: &gt; 1.0mm</li> <li>• Infraocclusion: &gt; 1.0mm</li> <li>• Too thin, requires replacement of restoration</li> <li>• Restoration cannot be removed</li> <li>• Restoration submitted broken</li> <li>• Restoration broken or cracked due to excessive occlusion or lack of structural integrity</li> </ul>	<ul style="list-style-type: none"> <li>• Excessive roughness</li> <li>• Excessive porosity</li> <li>• Excessive material in/on soft tissue</li> <li>• Excessive material on hard tissue</li> <li>• Inappropriate restorative material used</li> </ul>

## Record of Procedures

You will complete the record of procedures on one of the examination days. For this requirement, you will record selected procedures performed during the ACS (except the dental dam requirement), on the supplied Record of Procedures Form.

The record of procedures should be completed assuming that:

- each procedure is performed on a different patient.
- patients have no changes in medical history.
- local anesthesia has been administered for each procedure.
- any prepared teeth were restored during the session.
- any restored teeth were prepared during the session.
- provisional crowns were cemented during the session.
- for the endodontic access opening, the final obturation has not been completed.

In order to preserve anonymity, do not sign the record of procedures. You must use your NDEB ID number in place of a signature.

Record of procedures errors include:

- No or inappropriate record of updating medical history.
- No or incorrect tooth number identified.
- No or inappropriate type or brand of restorative or provisional material or cement.
- No shade recorded.
- Record not written in ink.
- Inappropriate correction of entry (original entry not visible through correction) or addition to the record.
- No ID number or ID number in inappropriate location.
- No or inappropriate date.
- No or inappropriate record of type, quantity, or location of local anesthesia.
- No or incorrect restored surfaces.
- Incorrect technique, improper use of material or improper sequencing of procedures.
- No cementation of provisional restoration recorded.
- Record not legible.
- Blank spaces left in record.

## Dental Dam Requirement

	Criteria
<b>CRITICAL ERROR</b> <input type="checkbox"/>	Dam not placed in allotted time
<b>A+</b>  <input type="checkbox"/>	Appropriate and stable clamp
	Clamp secured with an appropriate length of dental floss
	Orientation provides an unrestricted airway
	Dam inverted on all isolated teeth
	All punch holes in appropriate positions
	Dam and frame positioned for optimal access, safety, moisture control and patient comfort
	Appropriate number of teeth isolated
<b>A</b>  <input type="checkbox"/>	<input type="checkbox"/> Dam inverted on teeth in operative area only
	<input type="checkbox"/> Dam through contacts in operative area only, not compromising moisture control
	<input type="checkbox"/> Dam not optimally positioned for patient comfort and/or safety
	<input type="checkbox"/> Minor deviations in punch hole locations
	<input type="checkbox"/> Minor tears or holes not compromising moisture control in operative area
	<input type="checkbox"/> Minor correction to ligature required
	<input type="checkbox"/> Clamp not optimally positioned for moisture control
	<input type="checkbox"/> Frame not optimally positioned for patient comfort and/or safety
<input type="checkbox"/> Floss not optimally positioned for patient comfort and/or safety	

	Criteria
<b>D</b>  <input type="checkbox"/> 1 or 2 errors	<input type="checkbox"/> Unnecessary trauma to gingiva or teeth
	<input type="checkbox"/> Too few teeth isolated
	<input type="checkbox"/> Inappropriate ligatures
	<input type="checkbox"/> Punch holes improperly positioned
	<input type="checkbox"/> Tears or holes compromising moisture control
	<input type="checkbox"/> Dam caught on wings of clamp
	<input type="checkbox"/> Dam not inverted in operative area
	<input type="checkbox"/> Dam not through interproximal contact points compromising moisture control
	<input type="checkbox"/> Dam position does not allow proper access
	<input type="checkbox"/> Dam position compromises patient comfort and/or safety
	<input type="checkbox"/> Unstable clamp
	<input type="checkbox"/> Clamp compromises moisture control
	<input type="checkbox"/> Frame position compromises patient comfort and/or safety
<input type="checkbox"/> Floss position compromises patient comfort and/or safety	
<b>E</b>  <input type="checkbox"/>	<input type="checkbox"/> 3 or more errors defined in the D category
	<input type="checkbox"/> Unsecured clamp
	<input type="checkbox"/> Improper position of dam, frame, clamp, or floss not allowing treatment on indicated tooth
	<input type="checkbox"/> Use of dental dam adjuncts, such as Liquidam™
	<input type="checkbox"/> Use of ContacEZ®

## Infection Control & Safety

Invigilators will observe infection control and safety procedures. You will not be informed of recorded violations during the ACS. You must maintain an anatomically correct operating position.

The NDEB is aware that personal protective equipment (PPE) requirements have changed because of COVID-19. For the purpose of the ACS, it is assumed that your patients have been screened negative for COVID-19. There are no requirements for N95 masks or gowns to spare these items while there is a global shortage.

You will be provided two paper signs to designate a portion of your operatory as the “operating area” and another area as the “storage area”.

If you drop an instrument or treatment material that you need to retrieve during a procedure, you must notify an invigilator. The invigilator will ask you to describe how the situation should be handled in actual patient treatment.

### Operating Area

The “operating area” is where you can place the equipment and supplies needed for the requirement that you are working on. The bracket table is part of the operating area. Mobile carts are not permitted in the operating area. The “operating area” must reflect the dental operatory of a practicing dentist and can only contain:

- equipment and supplies needed for one requirement.
- instruments that can be sterilized. For the purpose of the ACS, it is not necessary to sterilize instruments.
- items covered by barriers if they cannot be sterilized.
- single-use items and materials, consistent with the treatment of one patient, that will be discarded at the end of patient treatment.
- small amounts of single-use items or materials in small containers, such as Dappen dishes or disposable medicine cups. The materials must be dispensed in the operating area. You may be asked to produce the original manufacturer’s container.

### Storage Area

The “storage area” is where you can place the equipment and supplies that you do not need for the requirement that you are working on, such as original containers with manufacturer’s labels or trays and cassettes for other requirements. For the purpose of the ACS, it is assumed that the storage area is outside your operatory and you are permitted to access it with proper infection control measures. The storage area:

- cannot be accessed with gloves.
- cannot contain items covered by barriers.

## Dental Unit

Hoses, tubing, and suction switches must not be covered with barriers. Barriers are recommended on the following surfaces:

- Control pads
- Lamp handles
- Lamp switches
- Chair buttons

## Handwashing

You must follow proper handwashing protocol each time you leave your operatory, including when walking to and from the dental dam operatories or when using the shared amalgamators. The use of alcohol-based hand sanitizer is permitted. Hands must be washed thoroughly for 20 seconds.

## Gloves

You must wear treatment gloves to perform all intraoral procedures. For the purpose of the ACS, you are permitted to wear treatment gloves while:

- loosening the clamp that allows the patient's head position to be adjusted.
- adjusting the head.
- using the amalgamator in your operatory.
- opening and closing the excursion hooks.

## Infection Control and Safety Errors

Infection control and safety errors include:

- Hand hygiene not performed or not performed properly
- Contamination of equipment involving gloves
- Wearing gloves outside of the operatory
- Use of shared amalgamator with gloves
- Face or mask touched with gloves
- Mask not worn or not worn correctly
- Use of contaminated instruments or materials
- Inappropriate use or placement of barrier material
- No barrier on equipment that is difficult to disinfect and not sterilizable
- Items in the operating area belonging in the storage area
- Eye protection not used
- Hair not appropriately controlled
- Safety of patient or operator jeopardized by handling or placement of materials or instruments
- Unacceptable handling and disposal of amalgam, sharps, or needles
- No or insufficient cooling water used with high-speed handpiece
- Use of materials or devices not approved for intraoral use
- Materials in unlabelled manufacturer containers or labelled containers not produced
- Quantity of single-use items and materials in the "operating" area not consistent with treating a single patient
- Manikin head or neck positioned so that patient comfort is compromised
- Leaning on or inappropriately contacting the patient's torso or head
- Damage to the oral cavity cover
- Barriers not completely removed from supplied equipment during examination time on Day 2