

# **CASE DEVELOPMENT GUIDE**

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## **NATIONAL BOARD DENTAL EXAMINATIONS**

*A publication of the Joint Commission on National Dental Examinations  
American Dental Association, 211 East Chicago Avenue  
Chicago, Illinois 60611-2678*

CASE DEVELOPMENT GUIDE  
NATIONAL BOARD DENTAL EXAMINATIONS

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The Case Development Guide for Part II is available on the ADA.org web site at  
<http://www.ada.org/prof/ed/testing/construction/index.asp>

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## **THE BASIC STRUCTURE OF PART II**

The comprehensive Part II National Board Dental Examination consists of 500 test items. The discipline-based component of Part II (Component A) includes 400 items and the case-based component of Part II (Component B) includes 100 items based on 8 to 12 cases

This Guide is meant to provide information to potential contributors of patient cases for the case-based component of Part II. For information concerning Component A, see the National Board Dental Examination Specifications published by the Joint Commission on National Dental Examinations.

## **THE CASE-BASED COMPONENT**

Patient cases are included in Part II National Board Dental Examinations because it is important to assess knowledge of the dental clinical disciplines as well as the ability to use this knowledge in solving patient problems. As such, case-based test items are interdisciplinary in nature. Hence, patient cases are designed to measure candidates' abilities to make appropriate judgments when faced with situations requiring the integration of biomedical and clinical dental sciences. Since the focus of every case scenario should be the patient, test items are centered on delivering quality care to that individual patient.

Each case should present as realistically as possible a situation that includes a patient, a set of conditions, and a complaint or problem. Conditions should model those encountered in dental offices, and problems should represent an area of dental practice taught in accredited dental schools. Because students cannot be expected to master all concepts of the clinical dental sciences, cases should test knowledge of the most important concepts required to deliver competent dental care.

Each case is presented with a patient history, dental chart, radiographs, and clinical photographs, and photographs of casts, when appropriate. These materials are accompanied by 8 to 12 test items addressing one or more of the following procedures of dental care delivery:

1. Interpreting findings and information provided in the case (including knowledge of basic medical, dental, and behavioral sciences)
2. Identifying and diagnosing problems
3. Selecting patient management strategies, materials, techniques, pharmacotherapeutics, and applying treatment
4. Evaluating progress and complications, including interim and final reports
5. Establishing procedures for prevention and maintenance

## **CATEGORIES OF PATIENTS**

The case-based questions are designed to address two categories of patients:

1. Adult (including geriatric) - 70 percent of cases
2. Child - 30 percent of cases

For the 100 test items included in the case-based section, at least 1 case must address the medical management of compromised patients. A compromised patient is one whose health status may require modification of standard treatment or special consideration.

## **COMPONENTS OF A CASE-BASED PROBLEM**

### *Patient Information*

Patient information should include age, gender, relevant physical characteristics, vital signs, medical and dental histories, relevant social history, and chief complaint. In addition to a dental chart, case materials should include radiographs of diagnostic quality and free of technical errors, unless such errors serve an analytic purpose. Cases also contain intra and/or extraoral photographs (see next section for detailed requirements). Cases may also contain clinical photographs and photographs of casts.

Cases may pertain to a patient's first visit, to a patient in the midst of treatment, or to a patient for whom treatment has been completed but who has returned with a possible complaint or a maintenance visit. Supplemental oral examination findings may also be included. All information should be clear and concise. It should require no more than one reading by candidates. Cases should exclude irrelevant information.

### *Test Items*

Test items should be developed for a case based on a treatment plan that encompasses multiple disciplines. Each item is classified by a primary discipline (i.e., Operative Dentistry) and secondary discipline(s). Items following a case should cover several subjects in clinical dentistry. Each item must address the case and require candidates to select and use information from the case to answer it. The test construction committees strive to eliminate any case-independent items. Additionally, the answer to one test item should not be contingent on knowing the correct answer to another test item. At the same time, items should be presented in a sequence appropriate for the delivery of care to the patient described in the case. Thus, as treatment in the case proceeds, new information might be given in subsequent items to guide candidates in making decisions.

There may be more than one acceptable treatment plan for a specific case. However, there still should be only one correct answer to each item. This is done by stating in the item's stem what has been done in the treatment to precipitate the next step.

## STANDARD ELEMENTS OF A PATIENT CASE

All cases submitted to the Joint Commission for inclusion in the National Board Dental Examinations must include the following:

1. A treatment plan that draws upon multiple disciplines
2. The potential for generating at least 8 multiple-choice items
3. Patient history (p7)
4. Dental chart (p8)
5. Radiographs\* (digitized files, tiff format, 300-600 dpi preferred - p9)
  - A. Complete series of good diagnostic quality, including:
    - \* 2, or preferably 4 bitewings
    - \* molar views of all quadrants
    - \* premolar/bicuspid views of all quadrants
    - \* lateral incisor views for all quadrants
    - \* canine/cuspid views for all quadrants
    - \* upper and lower central incisor views
  - B. Panoramic film, if available
6. Color slides or photographs\* (p10)
  - A. Intraoral and/or extraoral views
  - B. Slides of study casts (for orthodontic and prosthodontics cases)
  - C. Slides of lesions (for cases including oral pathology)

Photos should be clear with natural color and contrast, and free of extraneous elements, such as mirrors, retractors, instruments, and fingers.

Preferred views include:

- \* a full frontal view of both arches in centric occlusion
- \* right and left lateral views in centric occlusion
- \* a full occlusal view of the upper arch
- \* a full occlusal view of the lower arch
- \* other views, including close-ups of segments of a dental arch or quadrant, may be provided as long as appropriate views listed above are provided for orientation.

**\* The orientation (Left-Right) of radiographs and photographs must be clearly labeled.**

7. Case tracking form (p12)
8. Confidentiality Statement and Patient Release Form (p16-17)

### *Standard Forms*

Forms used by the Joint Commission on National Dental Examinations to record a patient history, adult clinical examination chart, and pediatric clinical examination chart are appended. More extensive descriptions of appropriate test items are included in the *Test Item Development Guide* published by the Joint Commission on National Dental Examinations. These materials are available at [www.ada.org](http://www.ada.org).

Please submit all case materials to:

American Dental Association  
Department of Testing Services - Test Development  
211 East Chicago Avenue  
Chicago, Illinois 60611-2678

Case materials may be sent in an electronic or hard copy format. For electronic files of radiographs and color photographs we request tiff or jpeg file format at 600 dpi. The patient history and dental chart should be done in MS Word. All radiographs and photographs must be oriented properly by marking them as Left Side, Right Side, or L to R or R to L.

All submitted case materials are reviewed by the Case Selection Committee. If the committee determines that a case is suitable for use on the National Boards, an honorarium of \$500 will be sent to the case contributor. All original materials (photographs and radiographs) will be returned upon request.

## **RESPONSIBILITY FOR TEST SECURITY**

Any participation in examination development carries with it serious responsibilities relative to test security. This is especially true regarding high-stakes national examinations. The Department of Testing Services, American Dental Association, emphasizes its expectations of each case contributor in safeguarding the security and confidentiality of the materials.

Each case contributor must be careful not to breach the security of test content through any activities associated with the case materials. A case contributor also may not contribute to a publisher's test review book regarding a case he/she has helped to develop, nor may he/she use these case materials in his/her own teaching or review sessions.

**SAMPLE CASE**

<b>Age</b>	63	<b>YRS</b>
<b>Sex</b>	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	
<b>Height</b>	6' 2"	
<b>Weight</b>	215	<b>LBS</b>
<b>B/P</b>	136/80	
<b>Chief Complaint</b>	"I haven't been to the dentist for several years and I was encouraged to make an appointment today. I have a loose tooth."	

**Medical History**

The patient reports a history of diabetes for the past 6 years. In addition, his left carotid artery was blocked requiring surgery 2 years ago. He is allergic to bee and wasp stings.

**Current Medications**

glyburide (DiaBeta<sup>®</sup>) 20 mg qd  
metformin HCl (Glucophage<sup>®</sup>) 500 mg bid  
atorvastatin calcium (Lipitor<sup>®</sup>) 10mg qd  
aspirin 81 mg qd

**Dental History**

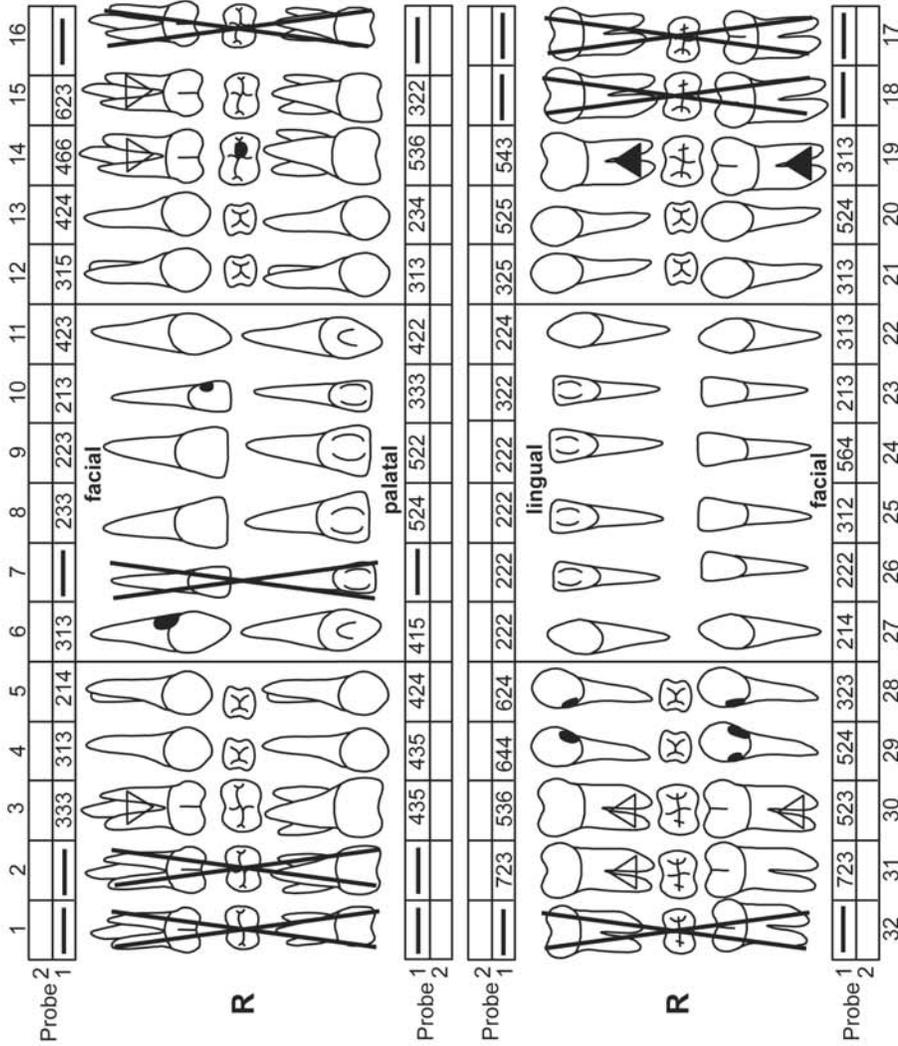
The patient does not seek routine dental care visits. His last visit was 2 years ago for an abscessed tooth.

**Social History**

The patient is married and works as a truck driver, who is on the road for several days at a time. He smokes 5-10 cigars a day and does not exercise regularly. He admits he has poor dietary habits.

# SAMPLE CASE

## ADULT CLINICAL EXAMINATION



### Current Oral Hygiene Status

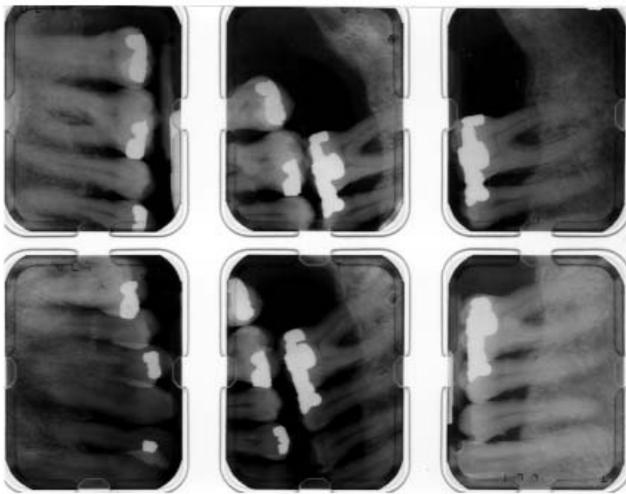
1. Poor
2. Generalized moderate to heavy supra and subgingival plaque and calculus
3. Generalized stain

### Supplemental Oral Examination Findings

1. Generalized gingival recession
2. Generalized gingival bleeding

	Clinically visible carious lesion
	Clinically missing tooth
	Furcation
	"Through and through" furcation
Probe 1:	initial probing depth
Probe 2:	probing depth 1 month after scaling and root planning

**SAMPLE CASE**

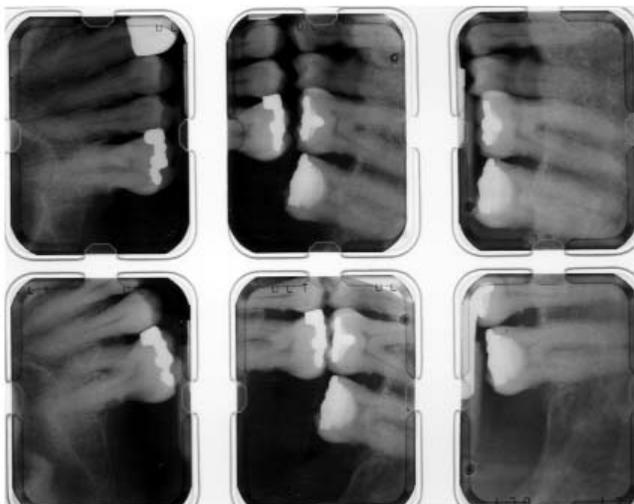


Left side



L

R



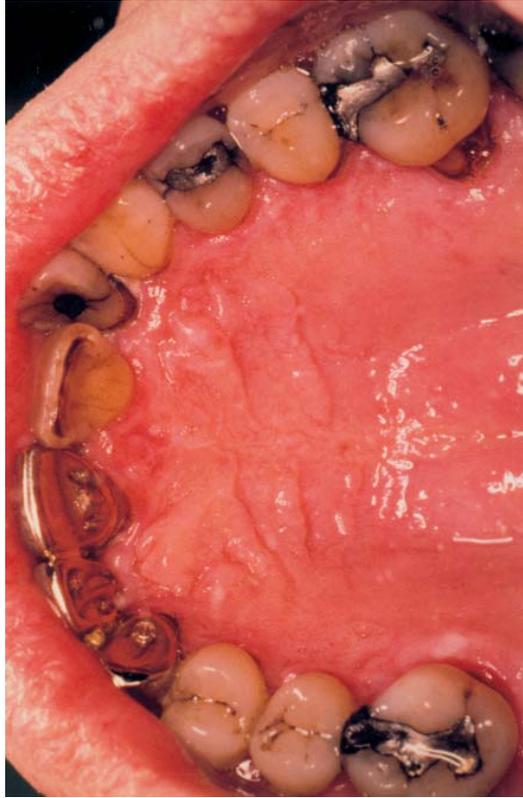
Right side

**SAMPLE CASE**



RIGHT

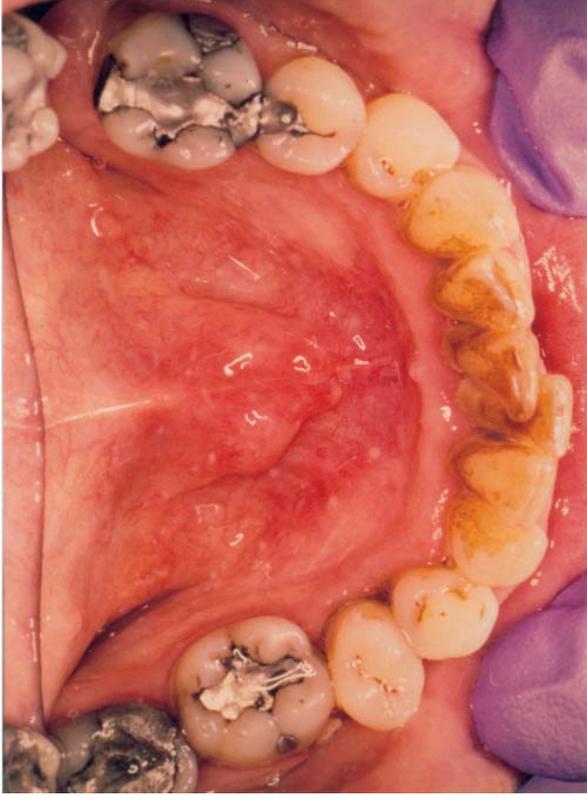
LEFT



RIGHT

LEFT

MAXILLARY VIEW



RIGHT

LEFT

MANDIBULAR VIEW

To: Potential Case Contributor for National Board Dental Examinations

From: Dr. Carol A. Vanek,  
Manager, Test Development  
Department of Testing Services

Thank you for your interest in providing case materials for use in our National Board Dental Examinations. The document, *Case Development Guide*, is designed to assist you in the preparation of case materials. All forms and charts mentioned below are found in the *Case Development Guide* at [www.ada.org/prof/ed/testing/construction/index.asp](http://www.ada.org/prof/ed/testing/construction/index.asp). If you elect to submit case materials, the following components are required for each case:

- A complete series of radiographs, including bitewings, and a panoramic view, if possible
- Color photographs or slides, including intraoral and extraoral views, and photos of study models or other relevant case materials
- Patient history
- Dental chart
- Patient release form, if you do not have one; otherwise please send the signed patient release form used in your institution or office.
- Copyright statement
- Case tracking form

Our main objective is to secure complete case materials of good diagnostic quality representing typical patients. As much as possible we prefer pretreatment case materials. When we receive the case materials, our Case Selection Committee will evaluate their appropriateness and value for our National Board examinations. After a determination is made, remuneration will be processed at \$500/case, and upon request, original case materials will be returned.

Though we prefer original digitized images, the radiographs and photographs can be submitted either as hard copies or tiff files respectively at 300 - 600 dpi. The dental chart and patient history can be sent as MS Word files.

We thank you for your interest and time to assist us in our examination development. If you have any additional questions, please contact Jonathan Sprague, Coordinator of Test Development, at 800-621-8099, ext. 2706.

# Appendix A

## NATIONAL BOARD DENTAL CASE MATERIALS TRACKING SHEET

Name: \_\_\_\_\_

Date: \_\_\_\_\_ SSN#: \_\_\_\_\_

Office Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E-Mail: \_\_\_\_\_ Phone: \_\_\_\_\_

Directions: Please indicate in the Type of Case box if a submitted case is an adult, pediatric, or medically compromised case. If an adult case, please indicate if the case primarily focuses on endodontics, periodontics, oral maxillofacial, general, etc. Please indicate

Case Categories	Type of Case	No. of Radiographs	Panorex	No. of Photographs	Patient History	Dental Chart
Adult Specialty						
Medically Compromised						
Pediatric						

Please return these case materials to me. Yes   
No

**PLEASE RETURN THIS FORM WITH SUBMITTED CASE MATERIALS.  
THANK YOU FOR YOUR CONTRIBUTION!**

# Appendix B

<b>CASE</b>		<b>Dental History</b>
<b>Age</b>	<b>YRS</b>	
<b>Sex</b>	<input type="checkbox"/> Male <input type="checkbox"/> Female	
<b>Height</b>		
<b>Weight</b>	<b>LBS</b>	
<b>B/P</b>		
<b>Chief Complaint</b>		
<b>Medical History</b>		
<b>Current Medications</b>		
	<b>Social History</b>	

CASE

ADULT CLINICAL EXAMINATION

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Probe 2	1																	
Probe 1	1																	
R	1																	
Probe 1	2																	
Probe 2	2																	
R	2																	
Probe 1	3																	
Probe 2	3																	
R	3																	
Probe 1	4																	
Probe 2	4																	
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R	15																	
Probe 1	16																	
Probe 2	16																	
R	16																	

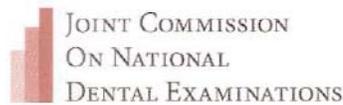
Current Oral Hygiene Status

Supplemental Oral Examination Findings

	Clinically visible carious lesion
	Clinically missing tooth
	Furcation
	"Through and through" furcation
Probe 1:	initial probing depth
Probe 2:	probing depth 1 month after scaling and root planing



# Appendix D



## Copyright Assignment

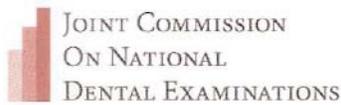
The undersigned, \_\_\_\_\_, whose address is \_\_\_\_\_ is involved in a special project for the American Dental Association that involves copyrighted or copyrightable materials. S/he acknowledges and agrees, individually and collectively, that all such materials belong solely to the American Dental Association, Joint Commission on National Dental Examinations, and that the Association holds any and all rights to obtain and retain ownership of copyrights for such materials in its own name. The undersigned represents that any and all contributions s/he makes to such materials will be original works, not copies in whole or in part of works of third parties. The undersigned hereby acknowledges and agrees that the American Dental Association is the sole owner of such materials, s/he has no ownership rights whatsoever in such materials, the Association has all rights to obtain copyrights for such materials, and such materials constitute "work made for hire" under copyright laws. The undersigned hereby assigns any and all ownership rights s/he may have to the American Dental Association, and s/he agrees that s/he will execute any additional documents necessary to effect this assignment to the Association upon request.

Name (print clearly) \_\_\_\_\_

Signed: \_\_\_\_\_  
Witness: \_\_\_\_\_

Date: \_\_\_\_\_

# Appendix E



## AUTHORIZATION FOR THE RELEASE OF DENTAL RECORDS

I hereby authorize \_\_\_\_\_ to release the information in the  
(dentist/dental hygienist's name)

dental records of \_\_\_\_\_ to the American Dental  
(patient's name)

Association, Department of Testing Services. The records will include copies of

current radiographs, intraoral and extraoral photographs - photos of dental casts and

any relevant dental materials or appliances, dental chart, and a brief medical/dental

history. These records will be used for purposes of educational assessment only. My

name and personal identification information will not be included with these records. I

understand that this authorization is effective on the date signed below and that a copy

of this authorization will be received upon my request.

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Signature

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Date