



National Health and Nutrition Examination Survey (NHANES)

Oral Health Recorders Manual



2011-2012

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1. OVERVIEW TO THE ORAL HEALTH COMPONENT

1.1 Introduction

The 2011-2012 Oral Health Component of NHANES is sponsored by the following organizations:

- The Centers for Disease Control and Prevention (CDC)/National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)/Division of Oral Health (DOH);
- The CDC / National Center for Health Statistics (NCHS); and
- The National Institute for Dental and Craniofacial Research (NIDCR).

This component was developed by the DOH, NIDCR, and the NCHS. A portion of this component, the periodontal assessment and questionnaire, was developed in collaboration with the American Academy of Periodontology.

The purpose of this component is to assess the prevalence of oral conditions and diseases, such as edentulism, dental sealants, dental fluorosis, dental caries, and periodontal disease. A set of periodontal questions will be assessing the extent to which these questions provide an accurate basis for estimating prevalence of clinically measured periodontitis in the U.S.

Over the past four decades, oral and dental health characteristics collected in national surveys supported by the Federal Government have been critical for monitoring health status, risk factors for disease, access to preventive and treatment services, and other health characteristics among the general population and special subpopulations. These studies include the National Health and Nutrition Examination Surveys (NHANES) and the National Health Interview Surveys (NHIS), as well as special surveys such as the Hispanic Health and Nutrition Examination Survey and the children's and adult surveys conducted by the National Institute of Dental and Craniofacial Research.

Oral and dental diseases affect many in the United States. Dental caries and tooth loss remain significant problems affecting the Nation's oral health. Although average dental caries rates for school-aged children have declined, approximately one-fifth of children aged 6-11 years and two-fifths of children aged 12-15 years have experienced dental caries in permanent teeth. Additionally, nearly 90 percent of adults in the United States have experienced caries. Dental sealants, an effective caries

prevention measure, have been underutilized in the United States, with about 30 percent of children aged 6-11 having them.

The 2011-2012 oral health component will meet a critical need to continue monitoring trends in oral health status. The 2011-2012 oral health component has returned to a comprehensive caries evaluation that is similar to the assessment that was conducted during 1999-2004. Likewise, the assessments of dental sealants and fluorosis will be similar to those conducted during 1999-2004. The full-mouth periodontal exam, which was first conducted in 2009-2010, will be continued for 2011-2012. In addition to the examination component, oral health-related questions will be asked during the home interview covering topics on dental utilization, quality of life, health promotion/disease prevention, and periodontal health. The 2011-2012 oral health exam will produce sufficient data to monitor six Healthy People 2020 oral health objectives (dental caries experience; loss; complete tooth loss; periodontal disease; and dental sealants). A new oral health question on the receipt of prevention information from oral health care providers will produce data to monitor a new Healthy People 2020 health objective.

This section provides a general overview of the oral health component and the mobile examination center (MEC) operations. Specific procedures for conducting the oral examination are described in the *Dental Examiners Procedures Manual* while specific procedures for recording data are described in the *Dental Recorders Procedures Manual*.

1.2 Data Collection

The MEC contains an automated computer system referred to as ISIS, the Integrated Survey and Information System. This automated system is used to:

- Direct the flow of SPs through the MEC, keeping track of which parts of the examination have been completed;
- Record interview and examination data;
- Perform edits on collected data; and
- Enter quality control data for each component.

The oral health examiner “calls” his or her observations (codes for oral health indices) directly entered into ISIS during the dental examination by MEC staff trained as dental recorders.

1.3 Operations Overview

This section summarizes the flow in the MEC and the responsibilities of the dental examiner and dental recorder.

- The oral health exam will be conducted by licensed dentists (D.D.S. /D.M.D.). Data will be recorded by a separate dental recorder.
- The dental examiner (D.D.S. /D.M.D.) arrives at the MEC prior to the session start. He or she needs to arrive early enough to complete the following tasks prior to the start of session:
 - Print and post the session schedule for the number of study participants (SPs) and their ages;
 - Set up the oral health work area;
 - Check all equipment;
 - Make sure enough supplies are available for the session. A full session is quite busy and there will be no time to resupply; and
 - Complete the quality control for set-up in ISIS.
- At the start of the session, each SP will check in with the coordinator at the workstation, just inside the MEC entrance. The coordinator will provide each SP with a bracelet with the SP's name, ID number, and corresponding barcode.
- The dental examiner notifies the coordinator that the room set-up is complete and the examiner is ready to receive SPs.
- The dental recorder goes to the coordinator station to meet the SP and bring him or her to the oral health room.
- The recorder opens the SP's record in ISIS and wands the barcode on the SP's bracelet.
- If the SP is eligible for the HPV rinse, the recorder will bring up the screen for the HPV component, then step out in the hall while the dental examiner administers the rinse. The dental examiner records the information for this component into the computer.
- The dental recorder returns to the room. The dental examiner completes the oral health subcomponents while the recorder enters the data in the ISIS system.
- The dental recorder escorts the SP to the reception area or next examination.
- The dental examiner sets up the room for the next SP.

- At the end of a session, the examiner does the following:
 - Cleans the oral health room;
 - Takes the biohazard trash bag to the collection area; and
 - Completes the End of Session quality control in ISIS.

1.4 Conducting the Oral Examination and Recording Oral Examination Data

Data for this component will be collected using a visual-tactile examination. This examination has several assessments. The specific assessment a study participant receives is dependent on their age and medical exclusions. Only SP's aged 1 year or older are eligible for one or more parts of the oral health component. The specific oral health screenings and question modules, with appropriate age range, are listed below:

- Medical History Screening (30 years and older)
- Tooth Count (age 1 and older)
- Dental Caries (age 1 and older)
- Dental Sealants (3-19 years)
- Dental Fluorosis Assessment (6-19 years)
- Periodontal Exam (30 years and older)
- Miscellaneous Report of Findings (age 1 and older)

The oral health exam will be conducted in the oral health examination room. The assessments will be performed with the SP in a recumbent position with the dental examiner seated behind the SP.

SPs with certain medical conditions will not be permitted to participate in the periodontal examination. The dental examiner will administer the medical history questions prior to conducting the dental examination. Some of the health screening questions are asked in other components, and the responses will pre-enter into the system.

1.6 Documenting Incomplete and Omitted Examinations

If a scheduled examination is partially completed or not done at all, the reason must be recorded in ISIS. The NHANES dental examination has several subcomponents and not every SP receives every subcomponent. The primary reasons SPs do not receive certain subcomponents relate to age and medical exclusions. However, there may be occasions when SPs are prevented from receiving the dental examination, or the dental examination begins but must be terminated prior to completion. Medical exclusions and these other unusual circumstances are recorded in ISIS. The age-dependent components are already accounted for by the system.

Medical exclusions are recorded by a “Yes” response to any of the medical conditions or circumstances listed in ISIS. This causes the system to automatically skip the excluded subcomponents.

Specific reasons for terminating an examination or a subcomponent of an examination are recorded in ISIS on the status screen for the whole examination, or for the particular section of the examination. Section status screens are summary screens that appear at the end of each subcomponent section: dentition, periodontal, and recommendation for care. If the subcomponent is partially complete or not done, the following reasons are programmed into the ISIS system and appear at the status screen:

- **SP refusal.** An “uncooperative” SP is one who is unwilling to cooperate, e.g., an infant or small child who cannot be persuaded to get through the examination.
- **No time.**
- **Physical limitation.** An SP may complete part of the examination because of a physical limitation, e.g., the examiner may not be able to do part of an examination because an SP has braces.
- **SP unable to comply.** SP who is willing but faces a barrier in complying with the protocol, e.g., a person who cannot sit in a position conducive to conducting the examination.
- **Equipment failure.** A piece of equipment is not working, or the examiner does not have the supplies necessary to complete an exam.
- **Medical reasons.** A circumstance where the SP’s safety or medical condition is of concern to the examiner due to pain, fainting, seizure, bleeding, etc. For example, if the SP experienced pain or fainted and the examiner elected not to complete a certain exam.

- **Safety reasons.** If an SP is excluded from certain subcomponents because of a medical exclusion question, but has otherwise gone through the exam, it is recorded as a partially completed exam for safety reasons, **not** a termination for medical reasons.
- **Room not available.**
- **Other reason.** A reason not programmed in the ISIS system requires a comment.

1.7 Report of Dental Exam Findings and Referral Letters

The last portion of the examination is the Recommendation for Care screen. The information on this screen is used to create the Report of Oral Exam Findings and an Oral Health Referral Letter, if needed. The information on this screen is partially automated—based on the examination data, and partially examiner driven—based on information the dental examiner gives the recorder. The Report of Findings will be handed to the SP when he or she leaves the MEC. It will indicate whether the SP should continue his or her usual dental care, see a dentist at his or her earliest convenience, see a dentist within 2 weeks, or see a dentist immediately. The Referral Letter is handed to those SPs whose oral health warranted a concern that they see a dentist within the next 2 weeks or earlier. The report, Referral Letter, and related procedures will be discussed in depth in Chapter 9.

1.8 Returning the SP to the Coordinator’s Area

After examination data are recorded and the examiner completes the Recommendation for Care screen, the recorder will escort the SP to the coordinator station or to another examination room. The examiner will then prepare the oral health room for the next SP.

2. ORAL HEALTH EXAMINATION METHODS

2.1 Preface

The oral health examination component consists of five assessment modules and two sections covering medical history and the Report of Findings. The D.D.S./D.M.D.s conduct the oral health assessments, medical history screening, and complete the Report of Findings. All examiner observations are directly entered by dental recorders.

Clinical examination data are entered by keyboard directly into computer terminals at the examination sites. This chapter details procedures for recording into this Integrated Survey and Information System (ISIS). The examination procedures are discussed in the *Dental Examiners Procedures Manual*.

2.2 Sequence of Oral Examination Subcomponents

Most SPs aged 1 year and older are eligible for some part of the oral health component. The subcomponents are conducted in the following order:

- Medical History Screening (30 years and older);
- Tooth Count (age 1 and older);
- Dental Caries (age 1 and older);
- Dental Sealants (3-19 years);
- Dental Fluorosis Assessment (6-19 years);
- Periodontal Exam (30 years and older); and
- Miscellaneous/Report of Findings (age 1 and older).

The assessment procedures and methods are discussed in the following sections of this manual. The assessment sequences follow the sequences shown on the ISIS screen. Each assessment has its own sequence.

Exhibit 2-1 lists the oral examination components in the sequence in which they are conducted. Included on the table are eligible ages of the SP for each examination component and whether the component triggers a referral.

The assessment sequences of the examination follow the order shown on the corresponding ISIS screen which is usually arranged by quadrants in the mouth. Each examination component has its own pattern sequence and order within the sequence. At the end of each dental component, a component status screen appears which indicates whether that component is complete, partially complete, or not done. Reasons for partially completed or omitted exams are to be defined on these screens.

Exhibit 2-1. Guide to oral examination components

Assessment	Age	Referral Match
1 – ELIGIBILITY AND DENTAL CONDITION		
Medical Exclusion Questions	30+	No
2 – DENTITION		
Tooth Count	1+	No
Caries	1+	Yes
Sealants	3-19	No
Fluorosis - Dean’s Index	6-19	Yes
3 – PERIODONTAL		
Periodontal exam	30+	Yes
4 – RECOMMENDATION FOR CARE		
	1+	

2.3 Pre-examination Procedures

1. The dental examiner will select the Dental Examination icon from the introductory window of the automated system at the start of a session.
2. The examiner will enter his or her password when prompted at the beginning of each session.
3. The recorder will open a new examination when an SP has been assigned to the room.
4. The recorder will enter his or her password when prompted.

5. The recorder will then pass the optical scan wand across the SP's identification bracelet and verify the SP's name and identification number displayed on the screen.
6. The examiner will explain the process to the SP in his or her own words and include the following facts:
 - The dental exam that I am about to perform is for study purposes only and is not a substitute for a dental exam that you would normally receive by a dentist.
 - I will be entering numbers and letters that have meaning only for this study into the computer.
 - I will be looking at your teeth and may touch your mouth, teeth, gums, or dental appliances.
 - The exam I will do today involves making six measurements around each tooth. I will use a periodontal probe to gently measure the health of your gums around each tooth.
 - You may briefly experience possible gum tenderness, minor gum bleeding, and potential dislodging of an already loose dental filling or material following the dental examination.
 - I would like to remind you that you can stop the exam at any time and you are free to ask questions at any time.
 - I may be able to give you some very general information regarding what I saw at the end of this exam.

2.4 Answering Study Participant Questions

It is very important that the D.D.S/D.M.D. answer questions raised by the SPs. Some of their concerns about the oral health exam and appropriate responses might be the following.

- **Treatment.** If the SP asks, assure him or her that the exam will not include treatment, X-rays, a drill, or anesthesia. The examiner will use only a dental mirror, a #23 dental explorer, and a periodontal probe to examine the mouth.
- **Existing dental work.** The exam will not interfere with any existing dental work such as fillings, bridges, or orthodontic braces. The examiner may ask the SP to remove any complete or partial dentures for intraoral inspection.
- **AIDS (acquired immune deficiency syndrome).** The Centers for Disease Control, part of the U.S. Public Health Service, has established standard practices for dentists and staff to use to prevent the spread of diseases, viruses, and bacteria, and these procedures are strictly observed by the staff on this study. The precautions used in this study are the same as those maintained in dental offices.

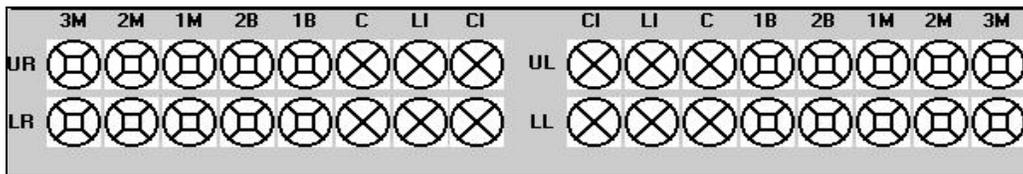
- **Qualification of the examiner.** I am a licensed dentist and I have been trained by a licensed dentist with expertise in conducting dental surveys.
- **What do you do with all of my information—does my dental information remain private?** The CDC summarizes the information to produce national estimates of tooth decay, missing teeth, and other oral conditions. Your dental information will remain confidential and researchers will not be able to link your dental data directly to your private data to identify you.

2.5 Guide to the Integrated Survey and Information System (ISIS)

The dental recorder is responsible for entering the dental “calls” directly into ISIS during the examination. Detailed instructions for proceeding through each screen are provided in this chapter. The ISIS screens are organized as follows:

- **Demographic Information:** On the bar located at the top of the screen, the SP ID, name, age, gender, date, and session time are displayed.
- **Heads-Up Display:** This is a summary screen (Exhibit 2-2) that is displayed in the upper portion of the screen after the Tooth Count is completed.

Exhibit 2-2. Heads-Up display



Space for each surface of each tooth is provided and conditions, such as caries and restorations, are indicated with different symbols as the recorder enters them.

The mouth diagram is shown as if the examiner is facing the SP with the central incisors of each quadrant in the middle of the diagram and the third molars at each end. Tooth surfaces are displayed in the pattern commonly used in diagnostic charts and are defined as follows:

- Occlusal – top or biting surface
- Lingual – surface toward the tongue

- Facial (Buccal) – surface outside, toward the lips and cheeks
- Mesial – interproximal surface towards the midline of the arch, and
- Distal – interproximal surface away from the midline of the arch
- **Examination Data Entry:** The various examination data entry screens have the following similarities:
 - Each row represents a quadrant or portion of a quadrant.
 - The quadrants are displayed in the following order: upper right, upper left, lower left, and lower right.
 - The data entry spaces correspond to the teeth being examined in that quadrant for that assessment.
 - The teeth are identified with codes along the top of the row to identify the teeth as follows:

CI	=	Permanent Central Incisor/Primary Central Incisor
LI	=	Permanent Lateral Incisor/Primary Lateral Incisor
C	=	Permanent Cuspid/Primary Cuspid
1B/1PM	=	1st Bicuspid/1st Primary Molar
2B/2PM	=	2nd Bicuspid/2nd Primary Molar
1M	=	1st Permanent Molar
2M	=	2nd Permanent Molar
3M	=	3rd Permanent Molar

2.6 General Data Entry Guidelines

This section summarizes key data entry guidelines. Summary instructions for oral health data entry codes are provided in Appendix A. Directions regarding allowable codes, acceptable ways to move through a screen, allowable shortcuts, and mandatory QC checks **by screen** are provided in this chapter.

Movement within the dental examination program can be accomplished by using the mouse or the keyboard. In most instances, using the keyboard is easier and more efficient. The keys are to be used in the program as follows:

- | | |
|-----------|---|
| TAB | Use this key to move forward from data entry field to data entry field within a screen whenever the program does not automatically move from field to field for you. |
| Shift TAB | Use this key to move backwards from data entry field to data entry field within a screen. |
| Backspace | Use this key within a data entry field to erase an entry backwards, one digit at a time. |

Enter	Use this key to move to the next screen after all allowable entries are made on the current screen.
F11	Use this key to clear data on a screen and restart the assessment (see Section 2.9.1).
F12	Use this key to stop in the middle of an assessment and continue with the remainder of the exam.

The mouse is used in a variety of ways as follows:

- To move the cursor to any data entry field within a screen;
- To display a list of allowable responses on a “pick list” by clicking on the down arrow (∇) to the right of the data entry field;
- To activate shortcuts by clicking on a box which will trigger fields to be filled or shaded, as appropriate; and
- To move to the next screen after all allowable entries are made on a screen by clicking on the right arrow button on the lower right portion of the screen.

Improper entries will cause the system to beep, display an error message in the lower left portion of the screen, and prohibit movement within the screen until a valid response is entered. If necessary, the recorder should provide the examiner with the explanation of the error as defined in the error message.

In some instances, a “9” will appear in one or more shaded data entry fields on a screen when the screen is initially displayed. This code is termed a “hard 9” and is triggered by specific codes entered on the Tooth Count screen (see Section 2.7). The program does not allow the recorder to overwrite the “9” with any other code. ISIS will skip these fields and the cursor will move to the first blank field space on the screen. To change this hard “9,” the tooth count code for that tooth must be changed on the Tooth Count Screen.

2.7 Editing the Examination Record

ISIS automatically edits responses as the recorder enters them. Below are a few of the edits that the system provides.

- **Range Edit Checks:** The system checks to make sure that the value entered by the recorder is valid as specified in this chapter.
- **Tooth Count Edit Checks:** The system checks against the tooth count calls during all subsequent assessments. This ensures calls are consistent across assessments, i.e., teeth coded as missing in the tooth count are not assessed in most of the subsequent assessments and primary teeth are not assessed in subsequent assessments that only look at permanent teeth.

When the system determines that a tooth should not be assessed for a particular component based on the tooth count results, the tooth space on the screen is shaded and “hard coded” with a “9” (cannot be assessed) code.

- **“Hard” 9 Checks:** The system does not allow the recorder to overwrite a “hard” 9 code with another code. “Hard” 9 codes are determined by the system as a result of the tooth count.

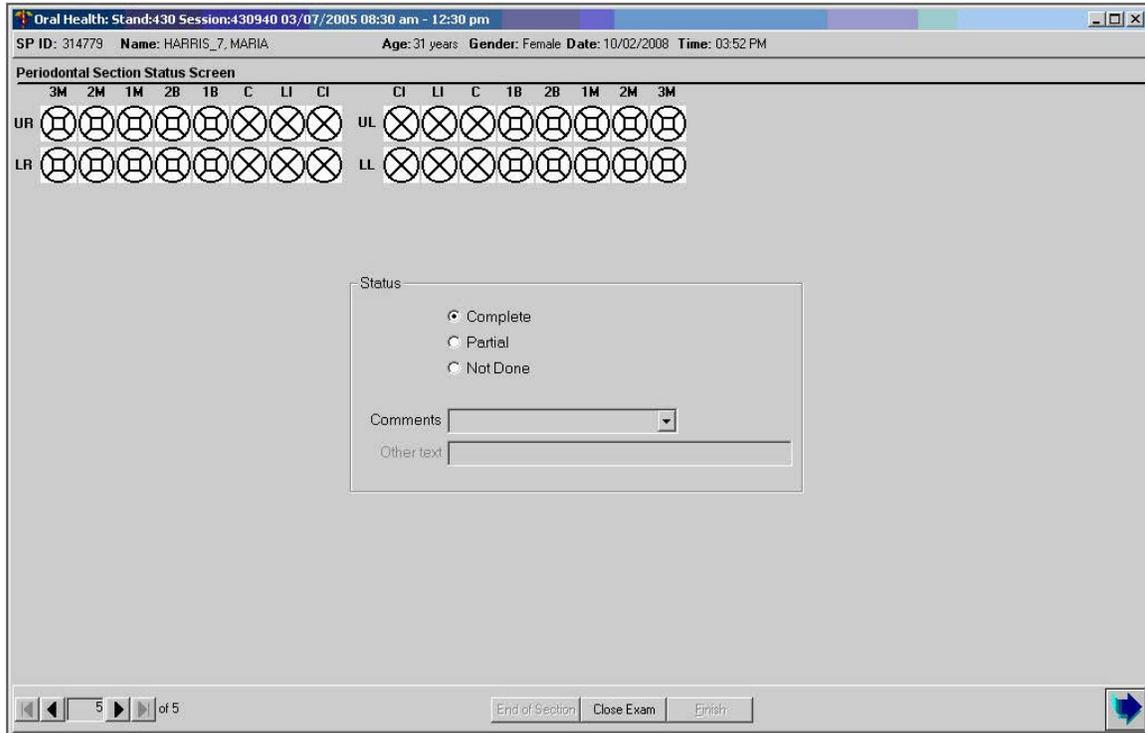
2.8 Section Status Screens

After each component section (Dentition, Periodontal, and Recommendation of Care), a status screen is displayed which is used to document the outcome of that section (Exhibit 2-3). The screen consists of two parts: the first part is used to record an overall completion code and the second part is used to record the reasons for incomplete examinations.

The overall completion code is automatically assigned by the system based on the results during the course of the dental examination. One of three outcomes is selected:

- Complete;
- Partial complete; and
- Not done.

Exhibit 2-3. Sample Section Status Screen



Allowable Entries:

Status

The system automatically defaults to complete, partial, or not done based on the data that were entered on all screens for that section.

Comments

Use the mouse to click on the down arrow and display the choices. Then use the mouse to highlight the appropriate reason. Allowable entries are:

- Safety exclusion
- SP refusal
- No time
- Physical limitation
- Communication problem
- Equipment failure
- SP ill/emergency
- Interrupted
- Other (specify)

Other Text

Accepts up to 225 characters. Type examiner's verbatim response.

Move Through Screen:

User must use mouse to move from field to field.

Shortcut:

None

Whenever a “partial complete” or “not done” outcome is assigned, ISIS prompts the recorder to enter a reason for the incomplete exam. There are nine choices the recorder can select from. These choices are standard throughout the survey and are listed below.

1. Safety exclusion;
2. SP refusal;
3. No time;
4. Physical limitation;
5. Communication problem;
6. Equipment failure;
7. SP ill/emergency;
8. Interrupted; and
9. Other (Specify) - If “Other specify” is chosen, the “Other text” field is enabled and the recorder must enter a comment in order to continue.

2.9 Examination Breakoffs

There are several types of examination breakoffs. In the first scenario, you may need to clear an assessment and restart it. In the second scenario, you may need to break off during a particular assessment and still continue with the examination. In the third scenario, you may need to break off during a particular assessment and cancel the rest of the examination. The procedures to be followed for these situations are provided in this section.

2.9.1 Clearing a Screen

There are various reasons for clearing a screen. For example, the examiner inadvertently calls the codes for one assessment while the recorder is entering data on another screen, or the examiner is calling assessments for a particular tooth and the recorder is entering that call for a different tooth. If the situation cannot easily be resolved, the screen is cleared and the assessment is restarted using the F11 key.

If the F11 key is used on any screen other than the Tooth Count screen, only the data on the selected screen are cleared. However, if the F11 key is used on the Tooth Count screen, all data on the Tooth Count screen as well as data on the following screens are cleared. This is because the tooth count calls drive subsequent assessments.

2.9.2 Canceling an Assessment

There are times when an assessment must be interrupted before it is completed but the examination can continue. In these situations the <F12> key is used to end the assessment, regardless of how much has been completed. The examiner will then continue with the next assessment. Any data entered on the screen before the screen in “cancelled” will be saved.

To cancel an assessment and proceed with the next assessment:

- Press the <F12> key. The screen is closed with the data entered up to this point saved. The next screen in the examination is displayed.
- Begin data entry on the new screen.

2.9.3 Canceling an Examination

There may be situations when an examination is terminated early i.e., the SP faints, the session ends, or the MEC shuts down for weather reasons. To cancel an examination before it is finished, the recorder uses the <CLOSE EXAM> button on the navigation bar as specified in the *Oral Health Recorders Manual*.

NOTE: All data entered up until the point you exited is saved. The “Open an Existing Examination” icon on the toolbar is used to reenter the examination. The Medical Exclusion Questionnaire is displayed to remind you of the pertinent exclusion information. Then the program requires the user to scroll forward through the screens until the first blank screen or partially blank screen, depending on how you exited, is displayed. The examination is continued from this point forward.

2.9.4 Exiting an Examination

The <FINISH> button located on the navigation bar is used to exit an examination once the SP specific assessments are completed. This button is only enabled when the Recommendation-For-Care Section Status screen (Section 9.2.3) **is completed**; it is not enabled on any other screen. To exit the examination on any other screen, the <CLOSE EXAM> button is used as specified in the previous section.

To exit an examination once it is completed:

- Use the mouse to click on the <FINISH> button.
- The SP's examination record is cleared. All data entered are saved.
- The system returns to the dental program menu screen and is ready for the next SP examination.

3. MEDICAL HEALTH SCREENING AND EXCLUSION

3.1 Medical Exclusion Questions

SPs with certain medical conditions will not be permitted to participate in the periodontal examination. All SPs who are 30 years and older will be asked the medical exclusion questions.

3.2 Questionnaire Procedures

Although NHANES will exclude only those individuals with conditions identified by the AHA that are associated with the **highest risk** of adverse outcome from endocarditis, NHANES will continue to ask some of the questions that were previously used to exclude individuals from periodontal examinations conducted before 2010 to assess the impact of exclusion bias on earlier estimates of disease. A positive response to these questions administered under the “old guidelines” will not result in automatic exclusion from the periodontal assessment.

The following “screening” questions inquire into a study participant’s health history. Not all of these questions will be used to exclude an individual from receiving the periodontal exam. See Exhibit 3-1 on page 3-3.

1. Has the doctor or dentist ever told you that you must ALWAYS take antibiotics (e.g., penicillin) before you get a dental checkup or dental care?
2. Have you had a heart transplant?
3. Do you have an artificial heart valve?
4. Have you had heart disease since birth?

[NOTE: Mitral valve prolapse (MVP) is no longer recommended for exclusion.]

5. Have you had a bacterial infection of the heart, also called bacterial endocarditis?

Has a doctor ever told you that you have:

6. Rheumatic fever?
7. Hemophilia?
8. Kidney disease requiring renal dialysis?

9. A pacemaker or automatic defibrillator?
10. A hip bone or joint replacement?

If a sampled person responds “Yes” to questions #2-5, he or she will be automatically EXCLUDED from the periodontal exam.

Two of the health screening questions will be administered in other parts of the examination and will be linked to the oral health examination. If the SP answers “Yes” to any of these two questions, he or she will not be excluded from the oral health examination and his or her answers will be shown to the dental examiner.

The shared exclusions questions are:

- Has a doctor ever told you that you have:
 - Hemophilia?
 - A pacemaker or automatic defibrillator?

3.3 Guidelines for Scoring

The codes for the medical screening questions are as follows:

1 = Yes

2 = No

7 = Refused

9 = Don't Know

3.4 Recording Procedures

All adults aged 30 years and older will be eligible for the health screening questions. The dental examiner will relay the responses from the SPs to the dental recorder for imputing into the data collection system. A positive response to any one of these four questions will result in an individual being **EXCLUDED** from the periodontal examination:

1. Have you had a heart transplant?
2. Do you have an artificial heart valve?
3. Have you had heart disease since birth?
4. Have you had a bacterial infection of the heart, also called Bacterial Endocarditis?

Exhibit 3-1. Medical Exclusion Questionnaire Screen

Oral Health: Stand:615 Session:615731 11/07/2010 01:30 pm - 05:30 pm

File View Utilities Reports Window Help

Oral Health: Stand:615 Session:615731 11/07/2010 01:30 pm - 05:30 pm

SP ID: 807529 Name: KEYA3, BERNARD Age: 41 years Gender: Male Date: 06/03/2011 Time: 03:19 PM

Shared Exclusion and Edentulous Screen

Has the doctor or dentist ever told you must ALWAYS take antibiotics (e.g. penicillin) before you get a dental check up or dental care? No

Have you had a heart transplant? No

Do you have an artificial heart valve? No

Have you had heart disease since birth? No

Have you had a bacterial infection of the heart, also called Bacterial Endocarditis? No

Has a doctor ever told you that you have:

Rheumatic fever? No

Hemophilia? Yes

Kidney disease requiring renal dialysis? No

A pacemaker or automatic defibrillator? No

A hip bone or joint replacement? No

Yes
No
Refused
Don't Know

1 of 2

End of Section Close Exam Finish

Ready Not connected to Coordinator 03:19 PM

Start Oral Health: Stand:615... 3:20 PM

Allowable Entries: Y = Yes
N = No
D = Don't Know

Move Through Screen: System auto tabs after each entry.

NOTE: The questions on hemophilia (Q9) and pacemakers (Q10) will not be asked here if the information is obtained elsewhere, such as in the other examination components. Answers obtained elsewhere will appear on the screen when the screen is initially displayed. Therefore, the examiner will only ask these questions if they are highlighted on the screen as this indicates that the information is still pending. Because these are “shared” medical exclusion items and “Don’t Know” responses are accepted in other components, acceptable entries for those two items are “Yes,” “No,” and “Don’t Know.”

However, entries of “Don’t Know” will be treated as “No” by the ISIS, that is, no medical exclusions will be prompted based on an entry of “Don’t Know” in Q9 or Q10.

4. TOOTH COUNT

4.1 Introduction

SPs 1 year and older receive this examination assessment which includes the assessment of the number of primary and permanent teeth present and the presence of surgical implants. Information on surgical implants is obtained from preliminary questions asked by the examiner. The examiner will proceed to examine the SP utilizing any guidance provided during the questioning.

4.2 Recording Procedures

The recorder enters the code called by the examiner for the question about whether the SP has ever had a tooth replaced with a surgical implant. The recorder then uses the next screen (Tooth Count Screen) to enter the tooth count calls made by the examiner.

NOTE: It is extremely important that the correct calls be made by the examiner and entered correctly by the recorder on this screen since the outcome of this assessment determines how other assessments are performed and coded. For example, root caries, dental fluorosis, and traumatic injuries are assessed only on permanent teeth as defined in the tooth count.

The results of the tooth count are entered on the Tooth Count screen, which contains four rows of eight data entry spaces. Each row represents a quadrant. The quadrants are displayed in the following order: upper right, upper left, lower left, and lower right. The eight data entry spaces correspond to the eight teeth per quadrant and are listed in order from the central incisor to the third molar. Abbreviations are provided along the top of the row to identify the teeth as described in Section 2.5.

The first five data spaces can store codes for primary or permanent teeth while the last three only store codes for permanent teeth. Only one code per tooth is to be entered. The codes for the tooth calls for this component are as follows:

- 1 = Primary tooth (deciduous)
- 2 = Permanent tooth
- 3 = Dental Implant
- 4 = Tooth not present
- 5 = Permanent dental root fragment

Whenever a call in the Tooth Count is made that precludes an assessment later on, (such as primary teeth not eligible for assessment of incisor trauma), the program automatically shades the affected tooth in the subsequent assessment. A “Cannot be assessed” code is also automatically displayed in the shaded data entry space. This code is “9” and the shaded “9” code is termed a “hard 9.” Note that the program does not allow the recorder to overwrite the “9” with any other code in subsequent assessments. ISIS will skip these tooth positions and the cursor will move to the first blank tooth space. To change this hard “9,” the Tooth Count code for that tooth must be changed on the Tooth Count Screen.

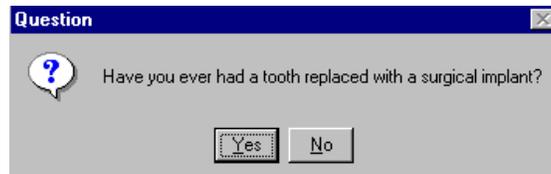
In the rare event an SP is edentulous:

1. There is a box on the screen labeled “Edentulous” which must be checked if the SP is edentulous. Simply recording all “4s” in the tooth spaces will not suffice for coding the SP as edentulous.
2. Natural teeth used as an over denture abutment would be coded as a “5.” Any retained root fragments under denture plates will be coded as a “5” as well.

Retained root fragments are classified as any permanent residual tooth structure that is predominately composed of dental root structure with more than 90 percent of the coronal structure (tooth crown) destroyed by caries and occupies a dental position within the dental arch. Because multi-rooted posterior teeth may present as multiple root tips, the dental examiner will assign multiple root tips to the appropriate dental position in the arch and code accordingly.

4.3 Screens

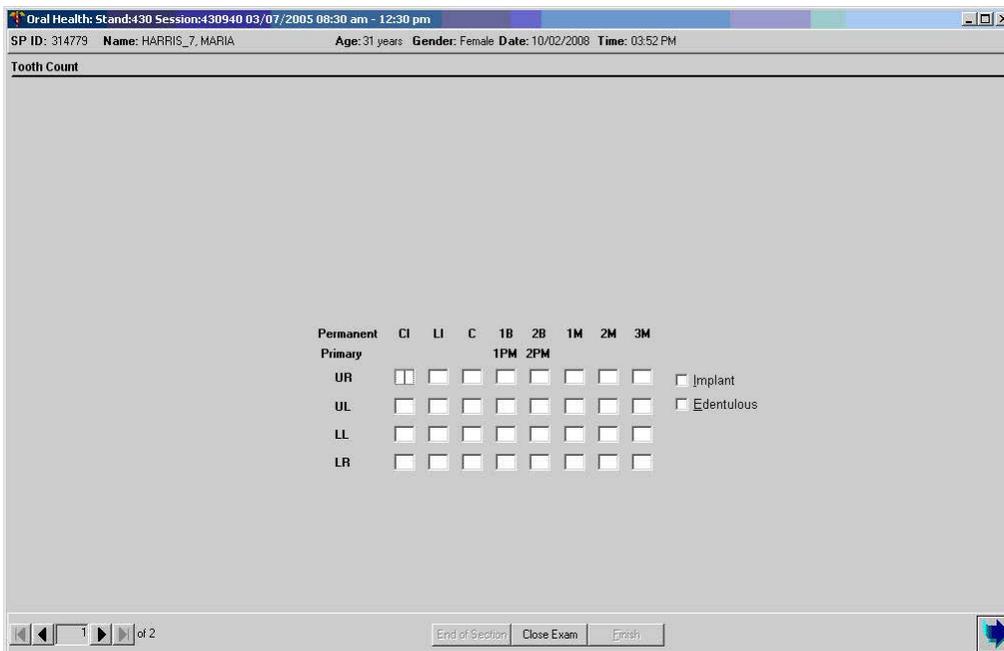
In order to record data in the system for the tooth count, the recorder must first record whether there are surgical implants present by answering the question “*Have you ever had a tooth replaced with a surgical implant?*” The examiner asks this question of the SP and the recorder enters “Y” for “Yes” or “N” for “No” depending on the SP’s answer. Regardless of the SP’s answer, the program displays the Tooth Count Screen (Exhibit 4-1).



When “Yes” is selected from the question box, the program will prefill the Implant box on the Tooth Count screen. When “No” is selected from the question box, the program will not prefill the Implant box on the Tooth Count screen.

NOTE: The information in the “Implant” box can be changed directly on the Tooth Count screen *without* returning to this question box by unchecking the implant box.

Exhibit 4-1. Tooth Count Screen



Allowable Entries:

- 1 = Primary tooth
- 2 = Permanent tooth
- 3 = Implant
- 4 = Tooth not present
- 5 = Permanent dental root fragment

Move Through Screen:

System autotabs after each entry.

Shortcut:

Edentulous: Use the mouse to click on the “edentulous” box. A check mark will appear in the box; the program automatically fills all remaining blank data entry fields with “4.”

QC Check:

Implant: The system makes sure that at least one “3” is entered whenever the “implant” box is checked. The system makes sure that no “3”s are entered if the “implant” box is not checked.

Edentulous: The system makes sure that only “3”s and “4”s are entered whenever the “edentulous” box is checked. The system makes sure that at least one “1” or “2” is entered if the “edentulous” box is not checked.

5. DENTAL CARIES

5.1 Introduction

The NHANES caries assessment is a comprehensive dental surface-by-dental surface evaluation for the presence of untreated caries and dental restorations.

5.2 Examination Procedures

Each SP aged 1 year and older receives the coronal caries assessment. All teeth except the third molars are assessed. Each quadrant is only dried with air when needed and examined with a surface reflecting mirror and a No. 23 explorer. The examiner begins the assessment in the maxillary right quadrant with the right central incisor and continues distally through the second molar in the same quadrant. The same sequence is followed for the upper left, lower left, and lower right quadrants. Tooth surfaces are examined in the following order: lingual, facial (buccal), mesial, and distal for anterior teeth, and lingual, occlusal, facial, mesial, and distal for posterior teeth. It is not advisable to call out the individual tooth surface codes until the surfaces of the whole tooth are examined, as this can be confusing to the recorder. Thus, the examiner will mentally accumulate surface calls for a given tooth, then dictate the calls to the recorder.

The codes characterizing a whole tooth condition are referred to as “tooth calls.” The allowable codes are as follows:

S = Sound permanent tooth (no decay or filling on any surface)

Z = Permanent tooth with surface condition

D = Sound primary (deciduous) tooth

K = Primary tooth with surface condition

U = Unerupted tooth

E = Missing due to dental disease (caries/periodontal disease)

M = Missing due to other causes (orthodontic/traumatic or other nondisease)

R = Missing due to dental disease but replaced by a fixed restoration

X = Missing due to other causes but replaced by a fixed restoration

P = Missing due to dental disease but replaced by a removable restoration

Q = Missing due to other causes but replaced by a removable restoration

J = Permanent root tip is present but no restorative replacement is present

T = Permanent root tip is present but a restorative replacement is present

Y = Tooth present, condition cannot be assessed

The codes characterizing the surface condition are referred to as “surface codes.” The allowable codes are set for caries and for filled teeth or restorations.

For caries, the allowable codes are as follows:

0 = Lingual caries

1 = Occlusal caries

2 = Facial caries

3 = Mesial caries

4 = Distal caries

For filled teeth or restorations, the allowable surface codes are as follows:

5 = Lingual restoration

6 = Occlusal restoration

7 = Facial restoration

8 = Mesial restoration

9 = Distal restoration

C = Crown (short call for both primary and permanent teeth)

5.3 Guidelines for Recording

The Coronal Caries screen is divided into four rows, which correspond to the four quadrants of the mouth: upper right, upper left, lower left, and lower right. These quadrants are labeled on the left portion of the screen. The teeth are labeled across the top. Space to enter the overall caries tooth call and the individual surface caries is provided for each tooth except the third molars. There is space to enter codes for seven teeth per quadrant. No more than 28 permanent teeth can be scored for each SP. Third molars, or wisdom teeth, are not scored for dental caries. The scoring system is set up to permit the calculation of the Decayed, Missing, and Filled Surface Index (DMFS).

If the tooth is permanent with no decay or filling on any surface, the examiner calls “S.” If the tooth is permanent and is not sound, the examiner calls “Z” **and** the appropriate surface condition codes as described below. “D” is entered for all sound primary calls while “K” and the appropriate surface condition codes are entered if the primary tooth has surface conditions (caries, restoration). If the tooth is missing and characterized by one of the other “tooth” calls, the examiner calls out the appropriate letter, “U” through “X.”

The recorder records the appropriate tooth condition code in the first space for the tooth. After this first space, there is a separate block of data entry spaces to accommodate the surface calls for that tooth as necessary.

If the tooth is permanent with decay or restorations on one or more surfaces (Z), the examiner calls the number(s) which correspond(s) to the surface(s) having decay or a restoration. Some examples are listed below.

- If the examiner calls 0, 1, 2, 3, or 4, it means that there is decay on the surfaces of the tooth represented by those numbers.
- If the examiner calls 5, 6, 7, 8, or 9, it means that there is a filling on the surface(s) represented by the number(s) called.
- If the examiner calls “C,” it means that there is a crown on that tooth.
- Combinations of caries and restorations on **different** surfaces are allowed. For example, if the examiner calls “1, 8, 9” it means that there is a caries on the occlusal surface and a restoration on the mesial and distal surfaces.

This procedure continues to the second molar for each of the four quadrants of the mouth.

5.4 Guide for Referral and Follow-up

Any caries call (0, 1, 2, 3, or 4) flags an ISIS recommendation telling the SP to see a dentist at his or her earliest convenience (Level 3 recommendation). Levels of recommendation are discussed in detail later in this chapter.

The examiner and recorder are both responsible for making sure that the calls the examiner makes are being recorded in the correct tooth space on the screen. In order to do this consistently, each tooth position is to be referred to by its quadrant location and tooth location. For example, whenever a

new quadrant is started or there is a long silence between calls, the recorder will prompt the examiner with the next blank tooth space, such as “upper left central incisor” (noted as “UL CI” on the screen).

In instances where all teeth in the upper and/or lower jaws are missing *for the same reason*, it is imperative that the examiner prompt the recorder to use the “Upper” and “Lower” fields to indicate the caries code. By doing so, the system will fill all teeth in that half mouth with the same code and the SP will be scored with the appropriate half-mouth calls.

5.4.1 Interaction with Heads-Up Display Screen

As condition codes are entered on the Coronal Caries screen (Exhibit 5-1), the corresponding condition symbols are displayed on the Heads-Up Display screen (Exhibit 5-2). As mentioned earlier, red bullets symbolize caries, while restorations are symbolized by shading. No changes are made to implants (red circle with “I”) or missing teeth (red circle with slash) based on calls entered on this or subsequent screens.

Exhibit 5-1. Coronal Caries Screen

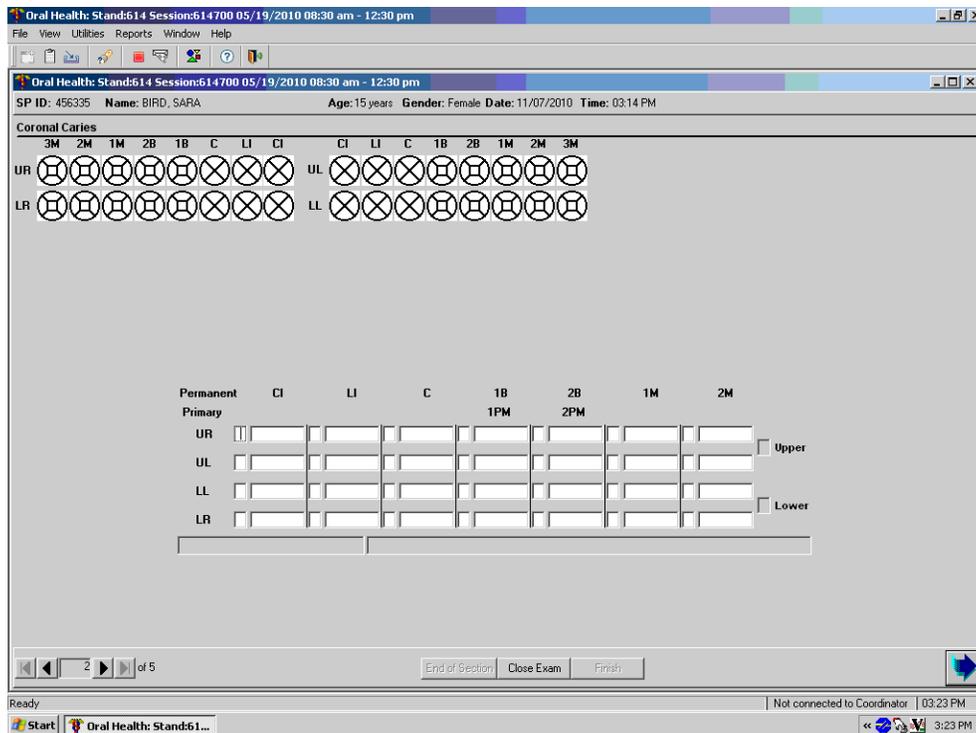


Exhibit 5-2. Heads-Up Display Screen

Oral Health: Stand:614 Session:614171 03/27/2010 01:30 pm - 05:30 pm

File View Utilities Reports Window Help

Oral Health: Stand:614 Session:614171 03/27/2010 01:30 pm - 05:30 pm

SP ID: 881946 Name: MORRIS, JANET Age: 20 years Gender: Female Date: 11/18/2010 Time: 03:24 PM

Coronal Caries

	3M	2M	1M	2B	1B	C	LI	CI		CI	LI	C	1B	2B	1M	2M	3M
UR																	
UL																	
LR																	
LL																	

	Permanent	CI	LI	C	1B	2B	1M	2M	
Primary					1PM	2PM			
UR	S		S	S	S	Z 5	S	R	Upper
UL	S		S	S	S	Z 3.5	S		
LL	S		S	S	Z 6.7	S	S	X	Lower
LR	S		S	S	Z 2.36	S	S		

Ready | Not connected to Coordinator | 03:24 PM

Start | Oral Health: Stand:61... | 4:13 PM

6. DENTAL SEALANTS

6.1 Introduction

The dental sealant assessment is a tooth-level evaluation for the presence of preventive dental sealants. Sealants are professionally applied plastic films used to occlude the pits and fissures on occlusal, facial (buccal), and lingual surfaces of teeth. Sealants are applied to the teeth as viscous liquids and polymerize (or “cure”) in a short period of time. The purpose of sealants is to provide a physical barrier to the collection of substrate for cariogenic bacteria in the pits and fissures, and thus prevent dental caries from initiating or developing further.

6.2 Examination Procedures

SPs aged 3-19 years receive the sealant assessment. The sequence of the exam is the same as that of the tooth count. However, only the pitted or grooved surfaces of the first and second bicuspid/primary molars, first and second molars, and the permanent maxillary lateral incisors are to be **scored for the assessment.**

The calls for the sealant assessment are as follows: “0” = Sealant not present; “1” = Occlusal sealant on permanent tooth; “2” = Facial sealant on mandibular permanent tooth only; “3” = Lingual sealant on maxillary permanent tooth only; “4” = Occlusal sealant on **primary** tooth; and “9” = Cannot be assessed.

6.3 Guidelines for Scoring

The calls for the sealant assessment are as follows:

- 0 = Sealant not present
- 1 = Occlusal sealant present on permanent tooth
- 2 = Facial sealant present on permanent tooth (mandibular only)
- 3 = Lingual sealant present on permanent tooth (maxillary only)
- 4 = Occlusal sealant present on **primary** tooth
- 9 = Cannot be assessed

The following guidelines should be considered:

- “0,” “4,” and “9” are mutually exclusive calls.
- Combinations of “1, 2” and “1, 3” are allowed for permanent molars since more than one surface of these teeth may be sealed.
- Only “0,” “3,” or “9” are allowable codes for lateral incisors.
- Only “0,” “1,” “3,” or “9” are allowable codes for upper permanent molars.
- Only “0,” “1,” “2,” or “9” are allowable codes for lower permanent molars.

6.4 Recording Procedures

Sealant codes can be entered for the bicuspid/primary molars, first and second molars, and the permanent maxillary lateral incisors only (Exhibit 6-1). One code is permitted for primary teeth, bicuspid, and permanent lateral incisors, while multiple codes are permitted for permanent molar teeth. Refer to the previous section for allowable codes.

The recorder may use a designated shortcut key to record all “0s” if the SP has no sealants on the teeth to be assessed. In these instances, the examiner calls “All 0’s” instead of calling “0” for each individual tooth assessed. The recorder presses the F2 key to automatically fill “0” in all blank tooth spaces in each quadrant, thus pressing the F2 key four times will fill all 4 quadrants with “0s.”

Exhibit 6-1. Dental Sealant Screen

Oral Health: Stand:614 Session:614700 05/19/2010 08:30 am - 12:30 pm

File View Utilities Reports Window Help

Oral Health: Stand:614 Session:614700 05/19/2010 08:30 am - 12:30 pm

SP ID: 456335 Name: BIRD, SARA Age: 15 years Gender: Female Date: 11/07/2010 Time: 03:14 PM

Dental Sealant

	3M	2M	1M	2B	1B	C	LI	CI	CI	LI	C	1B	2B	1M	2M	3M
UR																
LR																

	Permanent	LI	1B	2B	1M	2M
	Primary		1PM	2PM		
UR						
UL						
LL						
LR						

3 of 5
End of Section Close Exam Finish

Ready Not connected to Coordinator 03:29 PM

Start Oral Health: Stand:61... 3:29 PM

7. DENTAL FLUOROSIS

7.1 Introduction

Dental fluorosis is a condition of tooth enamel and dentine that results from receiving excessive amounts of fluoride during the period of tooth development. Both primary and permanent teeth may have dental fluorosis, although the former generally is affected to a lesser extent. The degree of dental fluorosis can range from barely noticeable whitish opacities to confluent pitting of the enamel surface and unsightly dark brown staining, depending upon the amount of fluoride ingested and duration of exposure during tooth development.

All SPs aged 6-19 years old receive the dental fluorosis assessment which utilizes the Dean's Fluorosis Index to assess the condition. The assessment is conducted in the same order and sequence as the caries examination, and all permanent teeth except the third molars are assessed (Exhibit 7-1).

7.2 Recording Procedures

The scores called by the examiner are entered in the appropriate fields for the Dean's Index using the codes as follows:

0 = Normal (no fluorosis detected)

1 = Very mild (opaque, paper white areas involving less than $\frac{1}{4}$ of the tooth surface)

2 = Mild (opaque, paper white areas involving $\frac{1}{4}$ to less than $\frac{1}{2}$ of the tooth surface)

3 = Moderate (opaque paper white areas involving $\frac{1}{2}$ or more of the tooth surface)

4 = Severe (discrete or confluent pitting in involved areas)

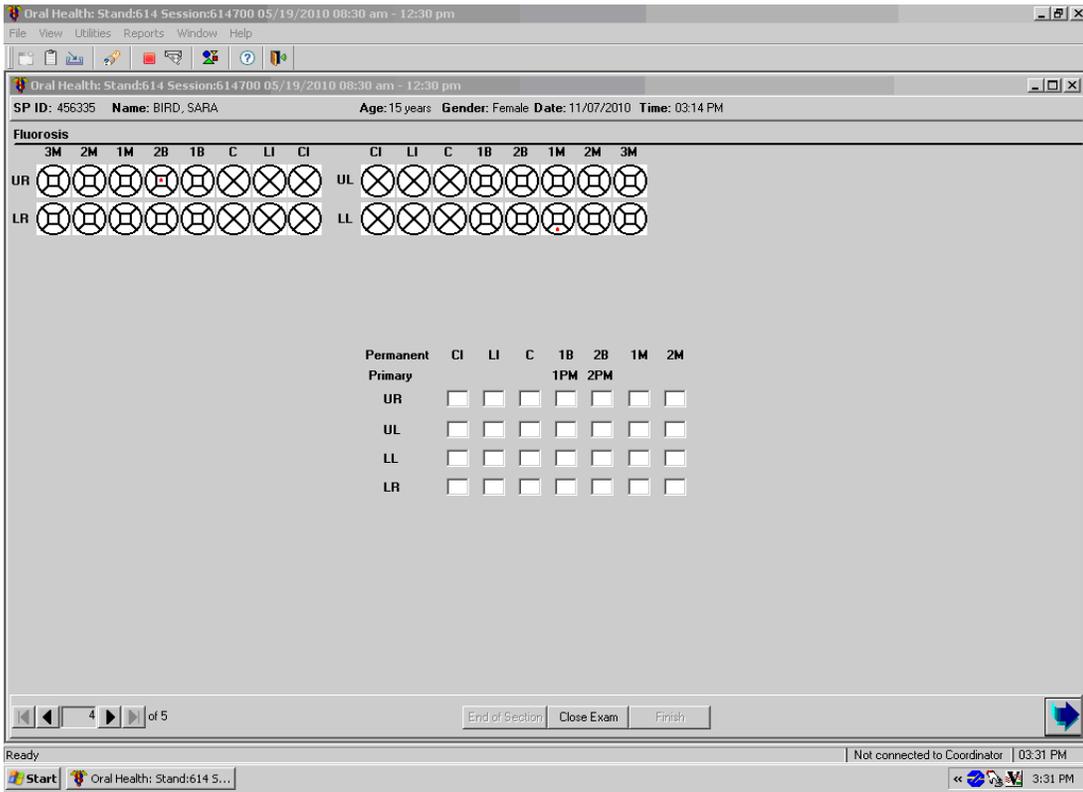
5 = Questionable (slight aberration of normal enamel appearance including white flecks)

8 = Nonfluoride opacity

9 = Cannot be assessed

NOTE: There is only one score per tooth.

Exhibit 7-1. Fluorosis Screen



Allowable Entries:

- 0 = Normal (no fluorosis detected)
- 1 = Very mild
- 2 = Mild
- 3 = Moderate
- 4 = Severe
- 5 = Questionable
- 8 = Nonfluoride opacity
- 9 = Cannot be assessed

Move Through Screen:

System autotabs after each entry.

Shortcut:

Press <F2> key to automatically enter “0” for all remaining blank data entry fields in a quadrant.

8. PERIODONTAL ASSESSMENT

8.1 Introduction.

Periodontitis is a prevalent form of gum disease and is a common chronic disease in the U.S. population. Severe periodontitis is a major cause of tooth loss that results in diminished oral function and quality of life in adults.

The periodontal section includes a full-mouth periodontal exam measuring gingival recession and pocket depth. Periodontal assessments are conducted from posterior to anterior beginning with the most distal tooth in a quadrant (excluding third molars) and proceeding toward the midline. Each site in the quadrant is examined with a surface reflecting mirror and a periodontal probe.

8.2 Participant Eligibility for the Periodontal Assessment

SPs aged 30 years and older will receive the periodontal exam. The assessment is performed on three sites per tooth surface (distal, mid-facial, and mesio-facial) totaling six sites per tooth (facial/buccal and lingual) for all quadrants. Two measurements are made at each site. The periodontal assessment begins with the most distal tooth and moves forward through each quadrant. Only permanent teeth are measured.

8.3 Recording Procedures

Findings for the periodontal assessment are recorded on the Periodontal Assessment screens. Each screen view is reserved for one quadrant. The examiner “calls-out” the assessment codes to a dental recorder for direct data entry. See Exhibit 8.1 on p. 8-3 for the Periodontal Exam Screen.

The allowable range for the FGM to CEJ measurement is:

-9 to 9	=	Measurement in millimeters
<u>+A</u>	=	Measurement is <u>+10</u> millimeters
<u>+B</u>	=	Measurement is <u>+11</u> millimeters
<u>+C</u>	=	Measurement is <u>+12</u> millimeters
Y	=	Cannot be assessed

The allowable range for the FGM to sulcus base measurement (pocket depth) is:

0 - 9	=	Measurement in millimeters
A	=	Measurement is 10 millimeters
B	=	Measurement is 11 millimeters
C	=	Measurement is 12 millimeters
Y	=	Cannot be assessed

NOTE: If one measurement cannot be assessed, then the other measurement must also be coded as “Cannot be assessed.”

NOTE: The second measurement must be equal to or greater than the first measurement. If the user enters a second measurement that is smaller than the first measurement, the system will prevent the user from moving until the error is corrected. If the second measurement was entered incorrectly, simply enter the correct information.

If the first measurement was entered incorrectly, you must delete the second measurement first, backspace to the first measurement, enter the correct information on the first space, then return to the second space and *reenter* the information.

If a “9” is entered, the system will send a message asking you if the measurement was “9 mm.” This is because, for all other assessments, “9” is “Cannot be assessed,” but for loss of attachment, a “9” is an actual measurement. The code “Y” is “Cannot be assessed.”

Exhibit 8-1. Periodontal Examination Screen

**Allowable Entries for
Loss of Attachment:**

For each tooth site (distal, mid-facial, or mesio-facial) the following two spaces must be recorded:

First Data Entry Space (FGM to CEJ measurement)

-9 to 9 = Measurement in millimeters

+A = Measurement is ± 10 millimeters

+B = Measurement is ± 11 millimeters

+C = Measurement is ± 12 millimeters

Y = Cannot be assessed

Second Data Entry Space (FGM to sulcus base measurement)

0 – 9 = Measurement in millimeters

A = Measurement is 10 millimeters

B = Measurement is 11 millimeters

C = Measurement is 12 millimeters

Y = Cannot be assessed

Move Through Screen:

System autotabs after each entry.

Shortcut:

None.

9. RECOMMENDATION FOR CARE, REFERRALS, AND MISCELLANEOUS

9.1 Introduction

As stated earlier, each SP will receive some general results about the dental examination he or she received in the MEC. These general oral health results will be combined with general results from the other MEC examination components to create an overall Report of Findings for each SP. In addition, SPs who require immediate dental care will receive a separate Oral Health Referral Letter. Both of these documents are discussed in this section.

Some SPs may not be able to physically complete the oral health assessments in a recumbent position (i.e., lying down in the dental exam chair.) These individuals may be wheelchair-bound and experience difficulty in transferring to the dental exam chair, or they may be very frail. Consequently, individuals who do not receive the entire oral health exam lying down in the dental chair are identified with a special tracking code.

9.2 SP Exam Position Tracking Code

Before the Recommendation of Care screen appears, an inquiry box will appear in ISIS asking if the SP was in a recumbent (lying down) position for all eligible assessments of the oral health exam (including tooth count through loss of attachment measures). See Exhibit 9-1. The examiner will dictate a “1” to the recorder if a “Yes” is applicable. If not, the examiner will dictate a “2” to the recorder. Final discretion as to whether a SP should be examined on the dental chair in a recumbent position is left to the examiner’s professional judgment and the abilities/wishes of the SP.

9.2.1 Scoring Code

The codes for the SP exam position tracking variable is as follows:

1 = Yes

2 = No

9 = Cannot assess

Exhibit 9-1. SP Position Screen

The screenshot shows a software window titled "Oral Health: Stand:410 Session:410021 08/20/2004 01:30 pm - 05:30 pm". Below the title bar, the patient information is displayed: "SP ID: 557808 Name: MARCOS1, STAN Age: 6 years Gender: Male Date: 10/17/2008 Time: 03:05 PM". The main content area is titled "SP Position Screen" and contains the question: "Was the SP in a recumbent (laying down) position for all eligible assessments of the oral health exam?". A dropdown menu next to the question is currently set to "Yes". At the bottom of the window, there are navigation controls including arrows, a page indicator "1 of 3", and buttons for "End of Section", "Close Exam", and "Finish".

Allowable Entries: Y = Yes (default)
N = No
C = Cannot assess

Move Through Screen: Not applicable

Shortcut: None

9.2.2 Guidelines for Scoring

If a child was held by a parent or guardian during the exam, the child will be coded as a “2.” If the child was lying down on the dental exam chair with a parent or guardian sitting on the chair as well, the child will be coded as a “1.” If, at any part during the oral health exam, a SP must sit up to complete any portion of an exam or to quit any exam component, the SP will be coded as a “2.”

9.3 Recommendation for Care and Referrals

As described in this chapter, certain calls for several of the assessments trigger a “Recommendation For Care” referral that is specific for this study. There are four levels of referrals defined in the system as follows:

- Level 1 - SP should see a dentist immediately
- Level 2 - SP should see a dentist within the next 2 weeks
- Level 3 - SP should see a dentist at his or her earliest convenience
- Level 4 - SP should continue with his or her regular routine dental care

Recommendation For Care levels are flagged for specific **conditions**. An overall Recommendation For Care level is assigned by the examiner based on the summary of care levels assigned to each individual assessment conducted during the exam and the examiner’s best professional judgment. Additional guidance is provided in Exhibit 9-2.

A Recommendation For Care level must be assigned to each and every SP by the examiner. If the SP does not have a condition that triggers a Level 1, Level 2, or Level 3 recommendation for any assessment, he or she will be flagged as a Level 4 examination Recommendation For Care referral. However, if the examiner finds any condition that warrants a different level of referral, he or she will override the system’s referral.

9.3.1 Recommendations for Care Recording Procedures

This section is comprised of the two screens—Exhibits 9-2 and 9-3. The first screen is used to document the care level assigned by the examiners. The second screen is used to create the SP referral letter, if needed.

The Recommendation For Care screen is a multipart screen with a list of the assessments that may trigger a referral on the upper left side of the screen and a choice of referral levels on the upper right side of the screen. (The system automatically pulls data from the assessments performed to aid the examiner in determining which level of care should be recommended.) The lower portion of the screen is an open-ended comment section used by the examiner to clarify the reason for the recommendation.

Exhibit 9-2. Recommendation For Care Screen

Oral Health: Stand:430 Session:430940 03/07/2005 08:30 am - 12:30 pm

SP ID: 314779 Name: HARRIS_7, MARIA Age: 31 years Gender: Female Date: 10/02/2008 Time: 03:52 PM

Recommendation for Care and Referral Screen

Assessments

Recomm. for care for Basic Screening Exam: 4

Recomm. for care for Dental Fluorosis: 4

Recomm. for care for Periodontal: 4

Other Referral Comments:

Referral Refuse

Generate Referral Letter

Overall recommendation for care

Other Conditions

A. Decayed teeth

B. Gum disease/problem

C. Oral hygiene

D. Clinical impression of soft tissue condition

E. Denture/Partial Denture/Plates

F. No significant findings

G. Some other finding (specify w/referral letter)

2 of 3

End of Section Close Exam Finish

Allowable Entries:

Overall Recommendation

- 1 = SP should see a dentist immediately
- 2 = SP should see a dentist within the next 2 weeks
- 3 = SP should see a dentist at his or her earliest convenience
- 4 = SP should continue his or her regular routine care

Other Conditions

(Code all that apply by using the mouse to click on the appropriate boxes.)

- A. Decayed teeth
- B. Gums/gum disease
- C. Oral hygiene
- D. Clinical impression of soft tissue condition
- E. Denture/partial denture/plates
- F. No significant findings
- G. Other findings (see comment)

NOTE: The condition F, “No finding,” is mutually exclusive of the other categories and cannot be combined with any other entry.

Other Referral Comments

Accepts up to 75 characters. Type in examiner’s verbatim response.

NOTE: This section must be completed whenever “Some other finding” is selected in the “Other Conditions” field.

Move Through Screen: User must use mouse to move from field to field.

Shortcut: None.

The “Assessments” section will be prefilled by the system. If the codes entered for an assessment do not trigger a Recommendation For Care flag as defined in this chapter, the system automatically assigns a Level 4 to that assessment. If the codes entered for an assessment trigger a predetermined care level, the system automatically assigns that level. In the event that multiple codes are assigned within the assessment, the system automatically displays the code for the more severe recommendation.

NOTE: Preassigned levels are provided as a guide for the examiner only.

The “Overall Recommendation” section is to be based on the level of care determined by the examiner and entered by the recorder. **It is the examiner’s responsibility to assign an overall examination recommendation for care level based on his or her best professional judgment and call the level to the recorder.**

The “Other Conditions” section is located just below the “Overall Recommendation” section. The dental examiner will choose to have one or more of the following conditions printed on the Referral Letter and Report of Findings as follows.

- A = Decayed teeth
- B = Gum problems/disease
- C = Oral hygiene
- D = Clinical impression of soft tissue condition
- E = Denture/partial denture/plates
- F = No significant findings
- G = Other finding (see comment)

NOTE: “F” is mutually exclusive with all other calls and no other condition will be listed if selected.

Section G is only used when a referral letter will be generated. The “Comments” section is for the examiner to record any open-ended comment up to 75 characters long. The purpose of this comment is to clarify the reason for the Level 1 or Level 2 referral, if necessary. **The information recorded in this space is printed on the Referral Letter the SP receives so the information must be entered verbatim as provided by the examiner.**

The “Referral Refused” and “Generate Referral Letter” boxes are enabled whenever a Level 1 or Level 2 recommendation is entered.

- If the SP refuses the referral, use the mouse to click on the “Referral Refused” box. A checkmark will appear and a letter will not be created. You will be required to enter a comment. This should include the reason the referral was refused and any comments the examiner may have that would be helpful. Proceed to the Recommendation For Care Status screen.
- If the SP accepts the referral, use the mouse to click on the “Generate Referral Letter” button. The SP Referral Information screen is displayed. Complete the screen as discussed in the next section.

9.3.2 SP Referral Information Screen Recording Procedures

The SP Referral Information screen (Exhibit 9-3) is used to record the information necessary to create the SP Referral Letter. It is displayed whenever the “Generate Referral Letter” button is selected on the Recommendation For Care screen.

To complete this screen, the examiner will obtain the name and address of the SP’s dentist or clinic to whom the letter should be addressed. In addition, the examiner will inform the recorder of any statements that should be added regarding the nature of the explanation or the SP’s response. Then the screen is used to document to whom the referral was actually given—the SP or the SP’s guardian.

If the SP does not have a specific dentist or clinic to whom the letter should be sent, the Clinic Pickup feature on the upper right hand portion of the screen is used as follows:

- Use the mouse to click on either “Clinic” or “Dentist.”
- The list of NHANES referral dentists and/or clinic names will appear. The examiner asks the SP to choose one of the facilities listed and that is the health care provider to whom the SP Referral Letter will be addressed. Use the mouse to click on the name the SP chooses.
- The name and address information for that dentist/clinic is transferred to the SP Referral Information screen and the referral list is cleared from the screen. If the dentist/clinic name has many characters, the information may not transfer over. You will then need to enter the information.
- Continue with data entry on the rest of the screen.

Exhibit 9-3. SP Referral Information Screen

Allowable Entries:

Clinic/Dentist Name, Address, and Phone

If SP has a preferred dentist/clinic: Enter verbatim as provided by the SP.

If SP requires a referral dentist/clinic: Use mouse to select “clinic” or “dentist” in Clinic Pickup box.

Explained to...

Use mouse to select one of three options displayed on the screen.

Description of Explanation/SP Response

Accepts up to 225 characters; enter verbatim as provided by examiner.

Move Through Screen:

User must use mouse to move from data entry field to data entry field.

Shortcut:

None

All comments to be added in the “Description of Explanation” and “SP Response” dialog boxes are to be recorded verbatim as the examiner dictates. In sensitive cases, the examiner may ask the recorder to leave the room and complete the screen himself or herself with the SP still present. The examiner will then complete the examination or ask the recorder to come back and close the examination.

After completing the SP Referral Information screen, the following functions may be performed by choosing the menu options on the lower right hand portion of the screen. Use the mouse to click on the appropriate button as follows:

Print	This button will trigger the referral letter to be printed in the Shipping Room. Use this function whenever the examiner needs to review a hard copy of this letter with the SP. <i>Do not provide the SP with a copy of this letter.</i> He or she will receive a copy of the letter along with the related documents when he or she leaves the MEC.
Preview	This button is used to view the letter on the computer screen. You will be able to scroll through the letter to verify that all items have been inserted properly: the dentist name and address, the SP name, and the conditions entered on the Recommendation For Care screen. Any changes that need to be made must be made on the appropriate referral screen; changes cannot be made on this preview screen.
Save	This button is used to save the letter so it may be printed by the coordinator when the SP leaves the MEC. It then closes the SP Referral screen and returns the user to the Recommendation For Care screen.
Cancel	This button is used to cancel the generation of the SP Referral Letter and return the user to the Recommendation For Care Screen.

After the SP Referral Information screen is completed, the program returns to the Recommendation For Care screen. To proceed with the rest of the examination, press <Enter> and the system will proceed to the Recommendation For Care Section Status screen.

NOTE: If the examination was not completed; (e.g., SP ill, MEC closes, equipment malfunction, etc.), but the examiner felt that an SP Referral Letter should be generated, the <CLOSE EXAM> button, not the <FINISH> button, must be selected on the Recommendation For Care screen (Section 3.9.3) to exit the examination.

9.4

Post-Examination Procedures

1. Complete the Dental Examination Screens.
2. Use the mouse to click on the <FINISH> button located on the navigation bar of the Recommendation For Care Section Status screen. (Remember to click on the <CLOSE EXAM> button if exiting prior to the end of the examination). The SP's examination record is cleared.
3. Escort the SP to the next component room or back to the coordinator area for assignment to another component as directed by the coordinator via the ISIS messaging system.