REFERENCE GUIDE

Collect Data, Develop Treatment Plan
Treatment Planning Process:

Collect data

Develop treatment plan
*Get patient and faculty approval*

Treatment Phase 1.
Urgent & Problem Solving

Treatment Phase 2.
Disease Control, Preparatory

Re-Eval

Treatment Phase 3.
Definitive Restorative

Maintenance
Sequence of Examination Process
(D0150, D0120, D0006, D0003, D0005)

- **Chief Concern**
  - Evaluate patient’s problems, goals and desires (“Chief Concerns”). Will become first entry in **Treatment Plan** tab.

- **Health History**
  - Evaluate the **medical status** of the patient and how that may affect your treatment. Fill out Forms tab called **Medical History**. Determine the ASA classification.

- **H&N Exam**
  - Do a **head and neck exam**, recording findings in the Forms tab **Head and Neck Exam** including the Oral Cancer Screening Exam.

- **Dental Exam**

- **Perio**
  - Perform full mouth probing. **Record** with either full mouth **Perio charting** (D0150) or **PSR** (if appropriate when no previous hx of periodontal tx).

- **X-rays**
  - Based on dental and perio exam, identify which **radiographs** (“x-rays”) are most appropriate for this patient. Record findings on odontogram and **Radiographic Interpretation** tab.

- **CRA**
  - Evaluate patient’s caries risk on the **Caries Risk Assessment Form**.
**The Parts of a Dental School Exam:**

You might want to learn these terms now...

<table>
<thead>
<tr>
<th>Term</th>
<th>Stands for:</th>
<th>Where is it done?</th>
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</thead>
<tbody>
<tr>
<td><strong>COE</strong></td>
<td><strong>Comprehensive Oral Exam</strong> (Can be a D0120, D0150, or D0006 depending on circumstances we will explore more fully later) in axiUm. Also called an <strong>OME</strong> (Oral Medicine Exam) or <strong>Workup</strong></td>
<td>In Oral Medicine chair with OMed, DXR faculty.</td>
</tr>
<tr>
<td><strong>DXR</strong></td>
<td><strong>Diagnostic Review</strong></td>
<td>Done with Oral Rehab faculty in a DXR chair.</td>
</tr>
<tr>
<td><strong>Treatment Planning Board</strong></td>
<td>For select cases that will require RPDs or other complex restorative care, a board consisting of a periodontist, a prosthodontist, and a restorative dentist will meet with you and your patient to hash out the options and determine the best treatment plan.</td>
<td></td>
</tr>
</tbody>
</table>
And what happens at each appointment?

<table>
<thead>
<tr>
<th>APPT</th>
<th>What you accomplish:</th>
<th>Sign off at:</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE</td>
<td>Evaluate patient’s <strong>chief concerns, health history, and head and neck exam</strong></td>
<td>COE</td>
</tr>
<tr>
<td></td>
<td>Complete <strong>dental exam</strong> (odontogram, caries, pathosis)</td>
<td>DXR</td>
</tr>
<tr>
<td></td>
<td>Do <strong>Caries Risk Assessment</strong> using information from exam and interview</td>
<td>DXR</td>
</tr>
<tr>
<td></td>
<td>Do complete <strong>periodontal charting</strong> (unless extensive calculus prohibits effective probing). Based on your findings, decide if pt’s first perio visit should be Perio Debridement (D4355), Prophy (D1110) or Comprehensive Perio Exam (D0180).</td>
<td>Perio</td>
</tr>
<tr>
<td></td>
<td>Make <strong>impressions</strong> for study casts</td>
<td>DXR</td>
</tr>
<tr>
<td></td>
<td><strong>Between appt’s</strong></td>
<td>DXR</td>
</tr>
<tr>
<td></td>
<td>Pour up casts. After dry, trim and <strong>mark</strong> occlusion, smile line.</td>
<td>DXR</td>
</tr>
<tr>
<td></td>
<td><strong>Radiographic Interpretation</strong>. Make appt with Radiology faculty to review radiographs.</td>
<td>Radio</td>
</tr>
<tr>
<td></td>
<td>Evaluate all data: <strong>Create Problem List, Diagnosis List, Treatment Plans</strong> (Phase 1, Phase 2, tentative Phase 3).</td>
<td>DXR</td>
</tr>
<tr>
<td>DXR</td>
<td>Review and verify <strong>Dental Exam</strong> with patient present.</td>
<td>DXR</td>
</tr>
<tr>
<td></td>
<td>Review and sign off <strong>Problem List, Diagnosis List, Treatment Plans</strong></td>
<td>DXR</td>
</tr>
</tbody>
</table>
Overview: Collect Data

COE Goals:

1. **Chief Concerns:** Concise summary of concerns (complaints) in patient’s own words.
2. **Health History:** Either new patient record or a review of existing records.
3. **Head and Neck Exam:** Include Oral Cancer Screening Exam. See Checklist.
4. **Dental Exam:** Missing and Impacted Teeth, Conditions, Materials, and Decay.
5. **Caries Risk Assessment:** Based on radiograph and exam, complete CRA form.
6. **Periodontal Charting:** Note pocket depths
7. **Study Casts:** Make impressions so that you can fabricate a set of study casts.

**Radiographic Review** - In dental school, each NEW patient will already have a panoramic and full mouth series of radiographs. However, in practice, you should do a dental exam, including caries risk assessment and periodontal charting, prior to deciding which radiographs are most appropriate for each patient.
Write your patient’s chief concerns ("complaints") - in your patient’s words. Not all of them...just get the main ideas.

Use part of your exam time to understand your patient’s overall goals, situation, and financial constraints. Once you have some rapport with your patient, try open ended questions.

If you could wave a magic wand, what would you want for your overall oral health?

Insight into their priorities - Health? Esthetics? Function?
2. Health History: New Patients

- When you contact your patient, ask them to bring a **list of their medications** or their pill bottles. Consider doing this over the phone—they can read the pill bottles!
- At the COE appt: Go to the **Forms tab**, then fill out the **Medical History tab**
- Instead of being at the computer (back to back with the patient) print out the Medical History Checklist and use it while facing the patient. Take notes, then quickly transcribe into axiUm
- Every “yes” answer should generate follow up questions and should have a written comment.

Print out the **Medical History Checklist** so you can talk to your patient face to face!
Now evaluate the patient’s medical status....

- There is a classification system developed by the American Society of Anesthesiologists to record the overall health status prior to surgery.
- Based on general assessment of illness severity.
- Simple and widely used, understood
- Correlates with surgical outcomes and complication rates, overall morbidity and mortality rates.
## ASA Classification

### American Society of Anesthesiologists physical status (ASA PS) Classification System

From Malamed S, Knowing Your Patients, JADA 2010: 141 (suppl 1): 3S-7S

<table>
<thead>
<tr>
<th>ASA PS*</th>
<th>DEFINITION*</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Normal healthy patient</td>
<td>–</td>
</tr>
<tr>
<td>2</td>
<td>Patient with mild systemic disease</td>
<td>Pregnancy Diabetes- well-controlled type 2 diabetes  Epilepsy (well controlled)  Asthma  Thyroid dysfunction  BP‡ 140-159/90-94 mm Hg§</td>
</tr>
<tr>
<td>3</td>
<td>Patient with severe systemic disease that limits activity but is not incapacitating</td>
<td>Stable angina pectoris  Post-myocardial infarction &gt; six months  Post-CVA &gt; six months Exercise-induced asthma  Type 1 diabetes (controlled)  Epilepsy (less well controlled)  Symptomatic thyroid dysfunction  BP 160-199/95-114 mm Hg</td>
</tr>
<tr>
<td>4</td>
<td>Patient with an incapacitating systemic disease that is a constant threat to life</td>
<td>Unstable angina pectoris  Post-myocardial infarction &lt; six months  Epilepsy- uncontrolled seizures  BP &gt; 200/&gt; 115 mm HG</td>
</tr>
<tr>
<td>5</td>
<td>Moribund patient not expected to survive 24 hours without surgery</td>
<td>End-stage cancer  End-stage hepatic dysfunction  End-stage infectious disease  End-stage cardiovascular disease</td>
</tr>
</tbody>
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- The ASA physical status classification system is adapted with permission of the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, Ill. 60068-2573.9
- † Sources: American Society of Anesthesiologists McCarthy and Malamed.
- ‡ BP: Blood pressure. § mm Hg: Millimeters of mercury. ¶ CVA: Cerebrovascular accident.
In the Medical History Tab, there is a category where you will choose an ASA classification for this patient based on your review of their medical history. Notice it only includes the first 4 of 6 possible options as we do not treat the sickest of the 6 options in an outpatient clinic setting. (We don’t even describe the sixth option)
2. Health History: Recall Patients

- Your first patients will be recall patients, so you will be told to “review the health history with your patient.” What does this mean?

- You don’t have to re-do the whole tab!

  **Before the appointment**, look at your patient’s list of medications, understand what they are usually prescribed for, and see if the list tallies with the health history.

  **At the appointment:**
  - “Has anything in your health changed since the last time you were in?”
  - “Have you been hospitalized for anything since (date of last Health Questionnaire)?”
  - “The last time we saw you, you were taking (go through medications). Are you still taking these? Has your doctor needed to change your dosage? Are you on any new medications?”

Enter any changes and updates into the record. Look up what any new meds are usually prescribed for and make sure that use tallies with your patient’s health history.
And schedule in OME IF....

At the recall exam appointment, patients must have their medical history reviewed and approved by an ORAL MEDICINE faculty, if they

- Are an ASA III patient
- Have had a change in ASA status
- Have had a significant change in health history (i.e., hospitalization, surgery or new systemic disease diagnosis)
- Have had a significant change in medications
- Have a new oral mucosal lesion(s)

All other patients’ histories may be reviewed and approved by the faculty in the department where dental care is delivered, ie, Operative, Fixed, or Removable Pros.
Medical Conditions

1. In axiUm, click on Links. One of the options is “Operative Clinic Manual.”
2. The first section is called Health History, and it gives you key questions and decisions points, and alterations in treatment, for a number of common medical conditions.
Med Hx: Concerns in the Stroke Belt

Take a look at these maps. Our patients have a significant risk for certain diseases:

- Stroke
- Diabetes
Common Significant Medical Conditions

- Diabetes
- Hypertension
- Angina
- Anti-coagulation

Because these are so common, and the medical management is a little tricky, we are going to spend time NOW getting comfortable with them.
## Diabetes

Diabetes is a disease of poor regulation of blood sugar. It’s complicated, and you will learn much more about the physiology in other courses. These are the questions you will ask your patients *in clinic* and what the answers mean.

<table>
<thead>
<tr>
<th>Question</th>
<th>Then</th>
</tr>
</thead>
</table>
| Did you take your medication and eat (breakfast/lunch) within the past two hours? Are you taking a long acting insulin? | - If they have not taken medication, have them take it.  
- If they have not eaten, have them eat something (ie. granola bar) especially if on long-acting insulin. |
| Most likely emergency is hypoglycemia- too much insulin, too little food. |                                                                                                                                 |
| How often do you check your blood sugar?                                 | Should be within **last few days** to verify control. Chart the current number. **NO GO** if **blood sugar > 400**, refer to MD. |
| What was the last reading? (Indicates current blood sugar level; also general sense on patient’s level of compliance) |                                                                                                                                 |
| When was your last HbA1c, and what was the number? (Indicates long term blood sugar control) | Should be within **last 3 months**. Results indicate long term blood sugar control: |
|                                                                           | **<6**--------**6-10**--------→**10**  
**Very good**  
**Fair**  
**Not controlled** |

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**MD** = Medical care provider, whatever the degree
But think about the common thread between diabetes and caries... *sugar.*

- When we know a patient’s *HbA1c*, we also have a clue to their dietary habits, at least with simple carbs, right? Couldn’t that help us know how likely they are to continue to decay?

- And when we counsel them to reduce sugar intake, we are singing the same song that they are hearing from their other health providers as well. We may be able to provide the extra motivation to get their diet under control.
Four Conditions: Hypertension

- Before we put a cuff on a patient for the first time and at each annual exam we always ask three questions.

  Why?
  If you take blood pressure on the same arm as any of these, you will damage, ruin or “blow out” an expensive surgical site, causing this patient unintended and completely preventable harm.

  The “Three Questions”
  1. Have you had a mastectomy?
     - If yes, ask which side and take it on the other side
     - If bilateral, ask if one side did not have a node resection and use it.
     - If both had node resections, use a wrist cuff
  2. Do you have an IV line or heplock in place?
     - If yes, ask where!
  3. Do you have a dialysis or fistula/shunt in your arm?
     - If yes, ask where!
So how often do we take *and record* blood pressure?

- **Every 6 months** no matter what
- If BP has been > 140/ or /90, record at every appointment
Four Conditions: Hypertension

**Systolic**
- 140
  - Follow up with MD* 60 days
- 160
  - Follow up with MD* 30 days
- 180
  - Follow up with MD* Immediately
- >210
  - Refer to ED Immediately

**Diastolic**
- 100
- 110
  - Signs and Symptoms include:
    - Headache on awakening, fatigue, confusion, vision problems
    - Chest pain, trouble breathing, irregular heartbeat, epistaxis, hematuria
- >110
  - 110-120 with signs and symptoms
- >120
  - 180-210 with signs and symptoms

JK Mitchell, DDS
MD* = Medical care provider, whatever the degree
Angina is pain caused by heart muscle that is starved of oxygen because of a blocked artery that feeds it. CABG (“cabbage” or Cardiac Artery Bypass Graft) is a surgical procedure that takes a vessel from somewhere else in the patient and replaces the blocked heart vessel.

**Location of chest pain during angina or heart attack**

- **Upper chest**
- **Substernal radiating to neck and jaw**
- **Substernal radiating down left arm**
- **Substernal radiating down left arm**
- **Epigastriic radiating to neck, jaw, and arms**
- **Neck and jaw**
- **Left shoulder and down both arms**
- **Intrascapular**

**Question**

<table>
<thead>
<tr>
<th>Question</th>
<th>Then</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is angina stable?</td>
<td>If unstable, <strong>NO GO</strong> until stabilized. Refer to MD</td>
</tr>
<tr>
<td>Date of CABG or Stent placement?</td>
<td>&lt;2 weeks, <strong>NO GO</strong> without written MD consult. Premed with antibiotic regimen. &gt; 2 weeks, no mods.</td>
</tr>
</tbody>
</table>

Think about it…we take people and scare them (stress) and give them anesthetic with epinephrine (adrenaline) in it (more stress). Think that might be a problem for someone with compromised blood flow to their heart???

*We need to be careful here.*
Four Conditions: Anti-Coagulation

- Patients with cardiovascular disease and some kinds of heart disease (i.e., atrial arrhythmias) are at risk for blood clots, which can cause heart attacks, strokes, or pulmonary emboli, all of which are life threatening. Often they are treated with anti-coagulation medication, usually Coumadin. These medications cannot be stopped for dental treatment, so we have to deal with them.

<table>
<thead>
<tr>
<th>Question</th>
<th>Then</th>
</tr>
</thead>
<tbody>
<tr>
<td>What medication are you taking?</td>
<td>If patient is on Coumadin, <strong>avoid block anesthesia</strong></td>
</tr>
<tr>
<td>When was your last INR test?</td>
<td><strong>INR</strong> is the name of the test that shows the patient’s clotting time. It should be within 1-2 weeks, 2 days for surgical procedures.</td>
</tr>
<tr>
<td>What was the number?</td>
<td>They must know the number- “My doctor said I was OK” is not good enough. Generally, an <strong>INR &lt; 3.5</strong> is OK for routine operative dentistry.</td>
</tr>
</tbody>
</table>

JK Mitchell, DDS

INR* = International Normalized Ratio
3. Head and Neck Soft Tissue Exam

1. Extraoral Exam:
   - Facial symmetry; skin of the face and neck
   - Palpate TMJ’s on opening and closing
   - Neck and Thyroid exam - start extraoral, then go intraoral for bimanual exam.

2. Intraoral exam:
   - Have patient stick out tongue- grasp with gauze, examine borders. Dispose of gauze. Pick up mirror.
   - Soft tissue: Have patient lift tongue. Inspect floor of mouth, palate, buccal mucosa, gingiva.

But what are you looking for??

There is a detailed checklist for this exam on the class web site.
Pull it up- print a copy and tuck it into a sheet protector so you can use it in the operatory.
And ask these questions!

Ask patient if they have:

- A "sore" in the mouth, especially a painless one, that has lasted longer than 2 weeks, or bleeds spontaneously.
- A lump, thickened, crusted, or eroded area that doesn’t heal.
- Difficulty chewing, swallowing, speaking (hoarseness) or moving the tongue. A sore throat or a feeling that something is caught in their throat.
- Numbness of the tongue or other area of the mouth.

*Any of these should make you nervous...*
More ominous...

- Solitary lesion
- Fixed to surrounding tissue
- Indurated lesion
- Asymmetrical lesion
- Mixed color lesion (red and white)

More reassuring...

- Multi-focal lesions
- Generalized lesions
- Symmetrical
- Long duration (years)
  Well-demarcated borders
4. Dental Exam

- Chart in this order:
  1. Missing and Impacted teeth
  2. Orientation, position
  3. Materials (existing restorations)
  4. Caries

- Get as much as possible charted before the patient arrives, using radiographs.
- Perform a clinical exam to complete the picture.
5. Periodontal Charting

**Really heavy calculus?** You may need to do a **Full mouth debridement** (D4355) to remove the calculus so you can do accurate probing.

- **Do full mouth probing.** *(Clinical tip: recite the probing depths into a recording device and transcribe after patient dismissed)*

- **Decide** if patient needs a **Comprehensive Periodontal Evaluation (D0180)** or a **Prophylaxis (D1110)** next - see criteria on left.

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**Supragingival calculus and/or Stain and/or Pocket depth <4mm**

- **Prophylaxis D1110**

**1. Subging Calculus + Bleeding on probing and/or**
- **Pocket depth > 4mm in several areas +**
- **Radiographic bone loss or**
- **3. MG defects**

**Comprehensive Periodontal Evaluation D0180**
Recall Patients:
What radiographs does your patient need?

Your recall patients (those who have been patients here at the school with other students) will need to be evaluated for whether or not to take new radiographs, and if so, which ones.

First, look at the existing radiographs. The patient may have to get an updated panoramic radiograph - within 5-7 years old - based on the clinical evaluation.

After that, it gets more complicated....
## 6. Radiographs

**Type of Exam** | **Adolescent** | **Dentate adult** | **Edentulous**
--- | --- | --- | ---
D0150 New Patient exam | 1. Pan + BW, selected PA’s 2. If clinical shows generalized dental disease, tx, then FMX | Based on individual
D0120 Recall Patient- Mod-High Caries Risk | BW q 6-12 mo | BW q 6-18 mo | NA
D0120 Recall Patient- Low Caries Risk | BW q 18-36 mo | BW q 24-36 mo | NA
D0180 Recall Patient with Perio Disease | Based on severity, location of disease | NA
Any Implants Planning | Usually: Girls age 16 Boys age 18 | Consider ConeBeam CT for 3D image of bone and scary stuff (nerve, blood vessels, bony defects)
Any | Follow-up | Usually annual PA radiographs
Any Endo- dx, planning, follow-up | Post-endo: 6 mo, 6 mo, then q year. | NA
Any Perio- Tx follow-up | Usually take perio BW’s every year | NA
Any Caries remineralization therapy | Usually BW’s every year | NA

Modified from ADA recommendation 2004

JK Mitchell, DDS

Vocabulary: q= every, dx= diagnosis
7. Caries Risk Assessment

- Go through the Caries Risk Assessment Tab.
- At this point, you should have a good sense for whether your patient is caries active or not from clinical and radiographic exam.
- If your patient is caries active, let’s figure out why:
  - You know from the medical history and the oral exam if it’s a salivary issue.
  - If not, it’s probably dietary. Now it’s up to you to tactfully figure out, with your patient, what the issues are.
8. Study Casts

- You will make a set of **study casts** so you can, well, *study* them when the patient isn’t there.
- To do this, you use alginate impression material to make maxillary and mandibular impressions.
- You’ll learn how to do this in your Occlusion course.

This is what your casts should look like—especially the gingival and mucosa!
9. Photos

- Clinical photos are a tremendous adjunct to treatment planning, not to mention **legal documentation**.
- It will help you remember details, and as you think through options, will answer questions that never occurred to you earlier!
- In the clinic, there is a camera you can check out. You just need your own 2GB (no larger!) SD card. **Use it, it will help you learn to take photos, which is harder than it looks!!!**
Key Clinical Take-Aways

- Obtain as much information as possible (and as appropriate!) prior to the appointment from the telephone interview (if patient agrees, medications, history) and radiographs.

- Use other recording mechanisms prior to entering in axiUm for convenience:
  - Chart on a paper form with disposable pencil (no patient names)
  - Record perio numbers in a voice recorder (NO patient information!)

- Do not use axiUm as scratch paper. Be certain of any entries made in axiUm. If not sure (ie, caries), keep on paper until the DXR appt. No entry in axiUm can ever be truly deleted, and guesses just clutter up the record!
If you have been organized, efficient, and skillful, you will have accomplished what you need to accomplish in this first examination appointment.

You will write up your chart entry and place the exam code “in progress” (it will show up as an “I”) to be completed at the DXR Diagnostic Review appointment.

Thank your patient for their cooperation and patience! Let them know how important this is to your education. For many of them, this is an important part of why they come here- to help educate the next generation- corny as that sounds. *Appreciate their effort.*
After the Exam Appointment

STUDY CASTS
RADIOGRAPHIC INTERPRETATION
START DEVELOPING PROBLEM LIST, DIAGNOSIS LIST, AND TREATMENT PLANS
Marking Study Casts

1. First, make sure the study casts articulate correctly. Usually the problem is:
   - Bubbles of extra stone on the occlusal surfaces
   - Not trimming the heels of the mandibular cast enough

2. Lightly mark the location of the smile line on the cast (See why photos are so useful?)

3. Mark the maximum intercuspation location (normal bite location) with little pencil marks from maxilla to mandible on both sides.
New Patients: Radiographic Interpretation

- Because all of our patients need radiographs for screening, they already have pans and FMX’s. Do the Radiographic Interpretation tab on your own, then make an appointment with a Radiology faculty member to go over it with them - they will sign if off.

- The Radiology requirement is:
  - Do 4 interpretations with Radiology faculty (with a passing grade on each)
  - Challenge the 5th full mouth interpretation as a competency in the spring semester.

- After that, you will fill out a radiology form and send it to the Radiology faculty.
Now you THINK

• Find a nice quiet spot where you can lay out your models and have access to axiUm.

• If you think you might want to alter your models—wax up or modify teeth—make a duplicate set! You always keep your original set untouched.

• You might want to be in a lab where there are loose sets of denture teeth and wax to try out your ideas. We’re dentists—we think with our hands!
You will probably not be surprised to hear that treatment planning in axiUm is a *little* complicated. Stay with me here, because it has to be done.

Start a new treatment plan by entering the **Chief Concern**. Then the process works like this:

- **List Problems**
  - Pick list - choose all that apply
  - Do not have to link each one to a Diagnosis

- **List Diagnosis**
  - Can pick from list or free text
  - Each treatment must be linked to a diagnosis

- **Tx Plans**
  - Create a plan for each phase (may combine 1,2)
  - Can create alternate Phase 3 plans to show pt options and costs.
Creating a New Treatment Plan

1. Click on the Tx Plan tab
2. Click on the folder with the green plus icon on the right side.
3. Now, you need the patient’s Chief Concerns.
Case 1: Jill- Chief Concerns

“My teeth are so ugly, I feel like I just don’t even want to smile any more. When I went to my family reunion last week, I was just so embarrassed I stayed in the kitchen the whole time. I’m really sure they all saw it anyway, but I tried to hide. Sometimes, my back tooth on the bottom left hurts…sometimes for a long time after I eat anything hot or cold. I would just like all my teeth fixed so I don’t have all these problems.”

Use your patient’s own words... but not all the words. You might use the following three sentences to capture her concerns. Be thinking how this affects this person and what is most important to her...

 “My teeth are so ugly, I don’t want to smile” affects social interaction, and this is clearly a prime motivation. Reassure your patient that you value this concern and will address it as soon as possible, even though you may end up treating the painful molar first. If you must deviate from your patient’s priorities, always explain why!
 “Sometimes my back tooth hurts” will require testing and diagnosis before treatment can be planned. Clearly, this could be an immediate concern. Note the most likely tooth!
 “I would like all my teeth fixed.” This is a vague comment, but it does indicate that your patient is interested in more than just episodic care.
Name the New Treatment Plan

1. Name your plan. Example: “Phase 1 2014”
2. Write patient’s Chief Concerns in their own words.
3. Click on New item in the Problems box
Adding Problems

So ...You’re in the block labeled “Problems”
4. Click on the button with the ellipsis (...). A new box called Select Problem will pop up.
5. Click on the “plus” sign next to the subject area you select.
6. Select the problem from the pick list. These may not be what you are expecting... for example, there is no “pit and fissure caries” on this list, because that’s a diagnosis. Keep an open mind here and see what fits best. The box will go away and the problem will appear in the Problem line.
7. Click the green arrow next to the Problem. If you picked the wrong one by mistake, click the black “X”.
You can continue to add problems using the same technique.
8. Go to the block labeled “Diagnoses”
9. Click on the button with the ellipsis (...). A new box called Select Clinical Diagnosis will pop up.
10. Be sure you are in the “Quick List” tab! If you get into “Full List” everything will look very strange and confusing. It has every ICD-9 code possible for the faculty and residents who need them. Generally, students don’t. You can also use the search function.
11. Select the correct category of treatment from this list.
12. Select the diagnosis from the pick list. These may not be what you are expecting... for example, there is no “secondary caries” on this list, because that’s unimportant as a diagnosis. Keep an open mind here and see what fits best. The box will go away and the problem will appear in the Diagnosis line.
13. Click the green arrow next to the Problem. If you picked the wrong one by mistake, click the black “X”.

Now continue to add problems using the same technique.
Adding Treatment to Option 1

14. Click on “New Item”. A list of the diagnoses you have chosen will pop up. Put a check in the box next to the one appropriate for the treatment you are planning.

15. Click on the “ellipsis” in the box next to Procedure.

16. A box called “Select Procedure” will pop up.
17. Again, be sure you are in the “Quick List” tab! These Quick Lists were developed to make your life easy - they are simple and organized. Make sure “Dental Txs” button is checked.

18. Select the correct treatment category. A list of possible treatments will pop up on the right... here we’ve selected amalgam.

19. There is also an excellent search function under the Search Tab. Just start typing and the options will appear. Play with it!

20. We clicked on amalgam, then typed in “19” under Site, “MOD” under Surf, and then decided this would be in Phase 2, and Sequenced first. More on that later in the course.

21. When the green check is clicked, the procedure changes to “three or more surfaces” and the prices change accordingly.
Moving to Diagnosis

- That’s the mechanics of how to do it, but at this point it’s a little tough because you haven’t had all the training you need to know how to diagnose all these diseases, and that is certainly beyond the scope of this course.
- So for now, just go over how the process works, and don’t get too bogged down in the details.
- But to help you see the big picture, we’re going to help....
We’ve made a list of the Quick Lists for Problems and the Diagnoses that most commonly correspond to those problems.

Once you see what the choices are, I think it will be clearer to you what we are talking about.

So print out a copy from the D2L class site.

Keep it handy, and as you go through your courses, keep checking it out....
Let’s look at Jill’s case in more detail. See if you can find Jill’s findings on the Problems side of the list. We’ll do this one for you:

1. Chief concern identified as “stained teeth” and “spaces between teeth. (Esthetics)

2. Jill’s medical history includes Type 1 diabetes. (Medical)

3. Pain “pain with thermal stimuli” in site 19. (Endodontic)

4. You also noted periodontal problems, caries, restorative problems, and missing teeth with some occlusal plane problems (Periodontal, Restorative, Prosthodontics, Occlusion)
What are the Diagnosis options?

- Now look at the corresponding Diagnoses next to each problem on the Quick List.
- There are notes on this printout that are not in axiUm to help you, too. They are in blue.
- As you go along in clinic, if you find problem areas, email the Treatment Planning course director with questions and concerns so these can be incorporated and shared. Help the next generation of students!

<table>
<thead>
<tr>
<th>Subject area</th>
<th>Problems</th>
<th>Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restorative</td>
<td>creative lesion; radiographic lesion of hard tissue (Visible on exam vs visible on radiography)</td>
<td>521.03 Caries- extending into pulp (think of vital pulp therapy)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>521.06 Caries- pit and fissure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>521.07 Caries- smooth surface</td>
</tr>
<tr>
<td></td>
<td></td>
<td>521.08 Caries- root surface</td>
</tr>
<tr>
<td></td>
<td></td>
<td>521.09 Caries- unspecified We are going to use this code to describe non-restorable cases</td>
</tr>
<tr>
<td>Non-carious cervical lesion</td>
<td>521.12 Abrasion- wedge defect NOS (Non-carious cervical lesion) NOS-list otherwise specified</td>
<td></td>
</tr>
<tr>
<td>Erosion</td>
<td>521.38 Erosion; acids, vomiting</td>
<td></td>
</tr>
<tr>
<td>Cracked tooth</td>
<td>521.81 Cracked tooth- incomplete fx (used for symptomatic or asymptomatic cracks into dentin.</td>
<td></td>
</tr>
<tr>
<td>Fractured tooth (missing tooth structure)</td>
<td>521.9 NOS-ex, missing tooth structure</td>
<td></td>
</tr>
<tr>
<td>Defective restoration</td>
<td>525.01 Open restoration margins</td>
<td></td>
</tr>
<tr>
<td></td>
<td>525.02 Unreparable overhang</td>
<td></td>
</tr>
<tr>
<td></td>
<td>525.03 Poorly contoured restoration</td>
<td></td>
</tr>
<tr>
<td>Fractured restoration</td>
<td>525.06 Ex restoration; fracture seen but no lost tooth structure or restorative material</td>
<td></td>
</tr>
<tr>
<td></td>
<td>525.64 Ex restoration, lost rest material</td>
<td></td>
</tr>
<tr>
<td>Nonesthetic restoration</td>
<td>525.67 Nonesthetic restoration</td>
<td></td>
</tr>
<tr>
<td>Dentin hypersensitivity</td>
<td>521.89 Dentin hypersensitivity, NOS</td>
<td></td>
</tr>
<tr>
<td>Provional restoration Previously endodontically treated tooth</td>
<td>521.89 Dentin hypersensitivity, NOS</td>
<td></td>
</tr>
<tr>
<td>Endodontics</td>
<td>522.0 Fibrosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>522.1 Pulp necrosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>522.2 Acute apical abscess, pulp origin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>522.3 Acute apical abscess w sinus tract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>522.4 Chronic apical abscess w sinus tract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>522.7 Periapical abscess w sinus tract</td>
<td></td>
</tr>
<tr>
<td>Swelling of suspected endodontic origin</td>
<td>524.2 Cells and abscess</td>
<td></td>
</tr>
<tr>
<td>Discolored tooth</td>
<td>521.7 Post eruptive color changes (Those changes attributable to a history of trauma)</td>
<td></td>
</tr>
<tr>
<td>Failing endodontic therapy</td>
<td>526.6 Pathosis of previous code</td>
<td></td>
</tr>
</tbody>
</table>
What are the Diagnosis options?

- If you don’t find the item on the Quick List, go to the Full List. On the right is an overview of the topics. It’s hard to navigate, though- you’ve been warned.

- If you’re lazy, you can “free text” into the box below the pick list. *Do this only as a last resort*, however, since free text can’t be searched electronically, and this compromises the value of our records for research.

- If there are diagnoses you don’t find on the list, email the Tx Planning course director so we can modify the list.

**ICD-9 Categories (Full List)**

- 520 Disorders of tooth development and eruption
- 521 Disorders of hard tissue of teeth
- 522 Diseases of pulp and periapical tissues
- 523 Gingival and periodontal diseases
- 524 Dentofacial anomalies, including malocclusion
- 525 Other diseases and conditions of the teeth and supporting structures
- 526 Diseases of the jaws
- 527 Diseases of the salivary glands
- 528 Diseases of the oral soft tissues, excluding lesions specific for gingiva and tongue
- 529 Diseases and other conditions of the tongue
1. List all your **Findings** in the **Problems List** so you don’t forget anything.
2. Use the Problem List to create the **Diagnosis List** for those problems you plan to treat. Remember, every treatment will need to be linked to a diagnosis.
3. The next step will be to create treatments linked to each diagnosis and place them in Treatment Plans by phase.

Each treatment **must** be linked to a diagnosis

- List all findings
- If not clear from odontogram where the problem is (i.e., pain), add the **site** to the problem

Diagnosis

- Use your problem list to develop a list of diagnoses.
- “Needs X treatment” is **NOT** a diagnosis!!

Tx Plans

By Phase

By Option

- Create plans for different phases.
- Can create alternate Phase 3 plans to show pt options and costs.

Start with your diagnosis to add a treatment linked to it
Moving from Diagnosis to a Treatment Plan with Phases

MATCHING DIAGNOSES AND TREATMENTS
DEVELOPING PRIORITIES WITH PATIENT
WHAT GOES IN WHICH PHASE
With a treatment plan...

- You dump out all the diagnoses and in the light of the patient’s:
  - Medical concerns
  - Personal preferences
  - Economic resources
you plan at least one (usually several) reasonable treatment options for each one.
- Looking at all your socks, you might sort them by function...maybe Workout socks vs Dress socks vs Crazy color socks, whatever.
- Once you’ve paired up diagnoses with treatments, decide which phase each of these treatments belongs in.

Let’s try an example. Remember Jill?
Remember Jill’s Problem List?

1. Chief concern identified as “stained teeth” and “spaces between teeth.”

2. Jill’s medical history includes Type 1 diabetes. Last HbA1c was 4 mo ago.


4. You also noted:
   - Periodontal problems
   - Caries
   - Missing teeth
   - Occlusal plane problems
Start thinking of possible treatments

1. Chief concern identified as “stained teeth” and “spaces between teeth.”

2. Jill’s medical history includes Type 1 diabetes. Last HbA1c was 4 mo ago.


4. You also noted:
   - Periodontal problems
   - Caries
   - Missing teeth
   - Occlusal plane problems

1. Several options.... Porcelain veneers? Orthodontics? Bleaching and direct bonding?

2. Get current HbA1c

3. Diagnose pain #19, then go from there to develop tx plan.

4. Other problems:
   - Perio- D0180, scale, root plane
   - Caries- list needed restorations
   - Missing teeth- options... implants? RPDs?
   - Occlusal plane problems. Wild card! How are we going to manage this??

JK Mitchell, DDS

=land mine. Keep an eye on this!
And focus on the **Key Decision Points**

Knowing Jill’s problems, you look at her study casts, and start thinking. Some problems don’t have any real options...her diabetes is going to be followed up with an HbA1c. But other problems have options, and the **big decisions that are going to determine the overall direction of the case are key decision points.** Examples:

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Treatments</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esthetic Concerns</td>
<td>Porcelain Veneers</td>
<td>Best Esthetics</td>
<td>More expensive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Usually last longer</td>
<td>Requires tooth prep</td>
</tr>
<tr>
<td></td>
<td>Vital Bleach + Composite Bonding</td>
<td>Less expensive</td>
<td>Not as long lasting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No prep /reversible</td>
<td></td>
</tr>
<tr>
<td>Missing 29-32</td>
<td>Implants, fixed partial denture (“bridge”)</td>
<td>Very functional</td>
<td>Expensive, requires surgery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not removable</td>
<td>Takes up to a year to complete (healing,etc)</td>
</tr>
<tr>
<td></td>
<td>Removable partial denture (RPD)</td>
<td>Less expensive</td>
<td>Less effective chewing, loose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No surgery required</td>
<td>Has to be taken out at night.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reasonably quick treatment</td>
<td>Tends to increase caries, perio risk</td>
</tr>
</tbody>
</table>

What if you can’t tell if there’s enough space? Or how it might work? To help you see which *might* be possible, you will often do **a diagnostic set-up in wax.**
But which would work for Jill?

- You’ve had a chance to talk to Jill. You know her concerns pretty well, and you have a sense for her priorities.

- **BUT**... You always want to offer all feasible treatment plans! Maybe she hasn’t said she’s interested in implants because she’s heard they cost $50,000. If she finds out that here they are only $10,000, she might be delighted to do that. Maybe not. Maybe she just doesn’t want screws in her jaw. You really never know unless you offer all the options with estimates.

- Bottom line... *never assume you know what people can or can’t afford*. Every dentist has a story of some poorly dressed patient who paid cash for the highest end treatment plan. (Go read the story of why Stanford University was founded for a useful lesson on that idea.) And *never* talk down to a patient.

- After you give Jill some ball-park estimates and talk over the advantages and disadvantages of each treatment, she gives you some direction on what she wants.

- Now you can start matching up problems with her preferred treatments.
Matching up Jill’s preferred treatments:

Medical History
Type 1 diabetes
Verify control with current HbA1c

Esthetic Concerns
Stained teeth and “spaces between teeth”

Direct Bonded Composites (close spaces)

Endodontic
#19- pain with thermal stimuli
Verify diagnosis, RCT #19

Dietary counseling
Daily Fluoride x4
Office Fluoride q 3 mo
Xylitol 3x/day

Composites 8,9
Amalgam 2,4

Periodontal
Dx Moderate

High Caries
CRA=22, #8,9
2,4

Missing #29-32

Occlusal plane
#2,3,4 supraerupted

Crown
#3,4
Extract 2

D0180 Scl/RP

Mandibular
RPD

Vital Bleaching (lighten color)

Develop treatment plan

Land mine. Be careful!!!

JK Mitchell, DDS
It helps to think about what our priorities are...

1. **First Priority.** Address *urgent* problems, like relieving pain, following up on health concerns, and making sure a suspicious lesion isn’t cancer. You also need to get areas of uncertainty cleared up before you can formulate a final treatment plan.

2. **Control Disease and Preparatory Treatment.** Caries and Periodontal disease need to be controlled before we move on to any other treatment. Any other treatment to prepare the dentition for final rehabilitation treatment is done here.

3. **Rehabilitation.** Now we can turn to providing restoration of form, function, and esthetics.
What fits in each phase:

**Phase 1. Urgent & Problem Solving**
Address urgent problems and answer key questions that will affect the final direction of treatment plan.

**Urgent problems:**
- Answer medical questions;
- Relieve pain;
- Biopsy suspicious lesions;
- Provisional replacement of missing anterior teeth

**Sample Key Questions:**
- Determine perio status (D0180). Is this tooth restorable? Does endo need to be redone? Can an implant be placed there? Should we do ortho first?

**Phase 2. Disease Control**
Control disease and prepare patient for Phase 3. Usually does not leave pt worse if do not progress to Phase 3.

- **Caries** - Control dx with diet counseling, fluoride, etc.
- **Operative** to restore carious lesions.
- **Endo** - treat pulpal pathosis
- **Ortho** - arrange teeth to prepare for prosthetic care.
- **Perio** - treat perio disease: prophy, init. therapy, surgery
- **Surgery** - remove hopeless teeth, place implants, shape bone for denture placement

**Phase 3. Definitive Restorative**
Restore form, function, and esthetics.

- **Ortho** - definitive care
- **Endo** - when done for restorative reasons
- **Perio** - Esthetic, mucogingival, or changing ridge shape in conjunction with prosthetic treatment.
- **Fixed Pros** - Crowns, fixed partial dentures
- **Removable Pros** - RPD, complete dentures
Now start sorting!!

So which category—which bin—do you throw each of Jill’s treatments into?
Sort the socks by function:

**Phase 1. Urgent & Diagnostic**
- Medical History
  - Type 1 diabetes
  - Verify control with current HbA1c
- Endodontic
  - #19- pain with thermal stimuli
  - Verify diagnosis, RCT #19

**Phase 2. Disease Control, Preparatory**
- Vital Bleaching
  - (lighten color)
- Esthetic Concerns
  - Stained teeth and “spaces”
- Direct Bonded Composites
  - (close spaces)
- Caries
  - CRA=22
  - #8,9
  - 2,4
- Periodontal
  - Dx Moderate
- D0180
  - Scl/RP

**Phase 3. Rehabilitation**
- Occlusal plane
  - #2,3,4 supraerupted
- Crown
  - #3,4 Extract 2
- Missing #29-32
- Mandibular RPD
- Caries
  - CRA=22
  - #8,9
  - 2,4
  - Dietary counseling
    - Daily Fluoride x4
    - Office Fluoride q 3 mo
    - Xylitol 3x/day
- Composites 8,9
- Amalgam 2,4

**Develop treatment plan**
But wait...

- You’re probably thinking “since when are stained teeth and spaces part of Disease Control?” and you’d be right.
- **But** That was her chief concern! If we don’t address that fairly soon, we aren’t being responsive to her needs.

*Besides, since we’re going to be doing composites on #8 and 9, we would need to do the vital bleaching first (so we would be selecting the correct shade, right?) so why not go ahead and meet her esthetic needs? A happy patient refers her friends...*
Begin with the end in mind.

The complexity comes when you learn how many options there are to treat any particular diagnosis.

Take a look at Jill:

- Her carious lesions in #2, 4 could be restored with either composite or amalgam. Which is best? Depends.
- But wait, didn’t you say you’re going to extract #2 because it’s supraerupted and there isn’t enough space for an RPD? Or crown it to make it shorter so the RPD will fit? Yep.
- You need to figure all that out before you start drilling away on anything.
- Occlusion always has to be part of the plan!
Sometimes you need to **do** a certain treatment or **obtain** a specialty opinion or do a more specialized type of data collection before you can create your final treatment plan.

Phase 1 has a place for that kind of critical treatment and evaluation. It is the mechanism for collecting the second tier of data outside the normal examination. It can help you prioritize:

- **What treatments** do I have to do (see if a tooth can be restored) before I can finalize my treatment plan?
- **Who** do I need to consult with before I can finalize my treatment plan?
- **What additional data** do I need to collect (Esthetic evaluation) for this patient before I can finalize the plan?

Depending on how important these questions are, a separate Phase 1 plan may be necessary before the Phase 2 plan is created. Otherwise, Phase 1,2 can be together.
There are going to be times when you can’t get a Treatment Planning Board appointment for a few weeks and you’re going to ask “can I start on the direct restorations while I’m waiting for Treatment Planning Board?”

Well yes, if you know the difference between directs that will be done in any treatment plan, and those that depend on which Phase 3 plan is chosen.

So- do your homework. In your Phase 2 Treatment Plan (which will be approved at DXR) sequence it so that you know which direct restorations will not be affected by decisions made at Treatment Planning Board.
Case 2: Virgil

What do you see on this radiograph? This is a patient treated in the Junior clinic by students.

- Take a look at tooth #30. Like the location of the pin? What about the distal margin on the amalgam? Think you could do better?

- Now look at #31. What material do you think was used on the MO? (Look closely...) Do you see another problems on this tooth?

  - Restoration clinically acceptable
  - Restoration NOT clinically acceptable
  - Caries
  - Perio
  - Endo
  - No Problems
So let’s develop a Problem and Diagnosis List:

<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perio-Furcation involvement</strong></td>
<td><strong>Perio diagnosis would depend on probing depths, and level of inflammation present</strong></td>
</tr>
<tr>
<td><strong>Restorative- Cavitated lesions or radiographic lesions (either is fine, no need to clutter your list with both!)</strong></td>
<td><strong>Restorative- Caries-root surface</strong></td>
</tr>
</tbody>
</table>
Now let’s develop the Treatment Plan

- What are our options? Virgil has already been offered perio surgery and refused it, so that leaves the following:
  1. Restore the carious lesion
  2. Wait until it hurts, then do Endo, core, and crown
  3. Wait until it hurts, then extract
  4. Extract the tooth, place an implant (not offered since tooth is unopposed)

- Virgil initially wanted to wait until it hurt to make a decision. (It happens) But how would we document that we explained what the implications of that decision to wait would “cost” him in terms of treatment severity as well as actual dollars?

- In the Treatment Planning tab, you can create multiple options within the same treatment plan.

  Take a look....
1. Here we have created the Problem and Diagnosis lists, and the first Tx Option, which is to restore the caries with RMGI (same as Resin to axiUm). To create another option, click (New Option) tab.

2. This option explains what it would cost to save the tooth once it hurts... Endo, core, and crown.

3. And finally, the third option lists the extraction option.

Note that of all the options, the restoration is the “cheapest” as well as the most conservative. Once Virgil saw this laid out, he chose the restoration! This can provide the basis for an informed consent discussion, as well as documenting it. (Once he signed the plan, it turned black while the other plans stayed in blue)
Creating Multiple Treatment Plans

When?

- Normally, create multiple treatment plans for situations that have a wide range of either monetary value or long term implications.
- Create multiple treatment plans for Phase III treatment options.
- NOT generally for routine situations where there is little choice in options except material selection (Phase II treatment).
1. Once Virgil chose Option 1, the faculty member approved that option by swiping it with their card.

2. Now click on the box labeled “Pt Accept/Print”

A new sheet pops up...
Virgil: Signing Treatment Plans

This sheet is what you see. It’s big enough on the screen to show it to the patient and make sure they understand the costs.

3. Now click the X to get out of the document. (Thank heavens! Something finally familiar in axiUm!)
When you click out of the Pt Accept/Print screen, this block pops up.

4. Now, have them sign on the signature pad. Nothing will show up on their pad! (it bugs them...) By the way, don’t wrap the cord around the signature pad... they are delicate!
5. Click OK
6. Click Print and give them a copy.
“Informed Consent”

“*The process of getting permission before conducting a healthcare intervention on a person.*”

-Wikipedia

What does it take before you can have true *informed consent*?

- **Capability**- Patient must have adequate reasoning faculties

- **Disclosure**- Patient must be in possession of all relevant facts, as well as a clear appreciation of the facts, implications and future consequences of an action (this discussion is easier when there are written treatment plan options to show them). This requires the dentist to have comprehensive knowledge so they can judge all viable options as well as being completely honest, self-aware and vigilant to provide an unbiased presentation of the advantages and disadvantages of each option.

- **Voluntariness**- Patient must exercise their own judgment free of external pressure, including manipulation.
So before any treatment is started, you collect data on the patient’s chief concerns and medical and dental situation, then develop treatment plans.

You will review these plans with faculty and obtain their approval through collaborative exams.

Finally, you will present your plans to the patient and obtain their informed consent through a signature on the plan they choose.
Nice work!
Case 2: Virgil. You said “Acceptable”

Correct!

- Tooth #30 was treated reasonably well. The distal margin on the amalgam, while slightly under contoured, is closed.
- The pin appears to be well placed- remember, you’re seeing it superimposed over the pulp, not in it!
- Nice job.

What do you see on this radiograph? This is a patient treated in the Junior clinic by students.
Case 2: Virgil. You said “Not acceptable”

What do you see on this radiograph? This is a patient treated in the Junior clinic by students.

- While the margin on #30 is a little under contoured, it is closed and looks pretty good. Not sure most of us could do any better!
- The pin looks fine, considering we can only see two dimensions.
Case 2: Virgil. You said “Caries”

What do you see on this radiograph? This is a patient treated in the Junior clinic by students.

Correct!

- If you spotted the caries in the furcation, you have a very good diagnostic eye! It was confirmed clinically with an explorer.
- When questioned carefully, we learned the patient sips on coffee with sugar most of the morning.
Case 2: Virgil. You said “Perio”

What do you see on this radiograph? This is a patient treated in the Junior clinic by students.

Correct!

- There is a furcation involvement visible here in the radiolucency circled.
- The patient is able to clean the area and the tooth is very stable, with no mobility.
Case 2: Virgil. You said “Endo”

What do you see on this radiograph? This is a patient treated in the Junior clinic by students.

- No, we don’t have any diagnostic signs that Endo might be indicated on this radiograph, and the patient is asymptomatic.
Case 2: Virgil. You said “No Problems”

What do you see on this radiograph? This is a patient treated in the Junior clinic by students.

- Look closely and try again!