

## Sorting Out Endodontic Symptoms

Approach each case in the same order- don't allow yourself to get distracted by chasing down the chief complaint too much.

**1. Medical History.** As with all patients, you review your patient's medical history, current medications, and take a blood pressure if indicated (patients with a history of hypertension).

**2. Dental History.** Ask a series of questions to create a picture of the history of this complaint.

| Question                                                                                                                                                                                                                                                                                                                                                                     | Leads you to think of...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Which tooth?                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <p><b>Onset</b></p> <ul style="list-style-type: none"> <li>How long has it been hurting?" (Prompt them: days, weeks, or months?)</li> <li>"Is it getting better, worse, or staying the same?"</li> <li>Does it come and go?"</li> <li>Did you ever have pain here, even if it stopped?"</li> </ul>                                                                           | <p><b>Days-</b> Irreversible pulpitis if worsening and severe, reversible pulpitis if less severe.<br/> <b>Months-</b> Sinus pain, cracked tooth, TMD all tend towards a cyclical pattern; possibly angina if worse with exertion and history of heart disease; others.<br/> <b>Weeks-</b> could be either.<br/> <b>Past history of pain-</b> severe pain which then stopped can indicate a necrotic pulp.</p>                                                                                                                                         |                                                                                                                          |
| <p><b>Location</b></p> <p>"Can you take one finger and point to where it hurts?"</p>                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Test the quadrant + referred area                                                                                        |
| <p><b>Duration</b></p> <p>"When it starts hurting, how long does it last?"</p>                                                                                                                                                                                                                                                                                               | <p>If it still hurts <b>more than 30-60 seconds</b> after you've removed the cold, think irreversible pulpitis.<br/>                     If dull throbbing constant, unprovoked by cold or hot, rule out periodontal pain as well.</p>                                                                                                                                                                                                                                                                                                                 | Cold test                                                                                                                |
| <p><b>Character</b></p> <p>Describe the pain:</p> <ul style="list-style-type: none"> <li>Sharp or dull?</li> <li>Throbbing?</li> <li>Constant, or intermittent?</li> <li>Does it ever wake you up at night?</li> </ul>                                                                                                                                                       | <ul style="list-style-type: none"> <li><b>Sharp (A delta fibers),</b> intermittent-usually means cranky dentin (exposed tubules, crack...) but still reasonably healthy pulp- think reversible pulpitis.</li> <li><b>Dull (C fibers or pulpal inflammation),</b> achy, throbbing, spontaneous- think irreversible pulpitis.</li> </ul>                                                                                                                                                                                                                 | Cold test                                                                                                                |
| <p><b>Aggravating factors</b></p> <ul style="list-style-type: none"> <li>"Does anything bring the pain on? How about when you're eating? Hot or cold food?"</li> <li>If biting makes it worse, "Does it hurt pretty much every time you eat, or just sometimes? Is it a sharp, electric pain, or a dull, achy pain?"</li> <li>Does anything make it <b>worse</b>?</li> </ul> | <ul style="list-style-type: none"> <li>If it hurts with <b>every bite</b>, usually periapical or periodontal inflammation</li> <li><b>Dull, aching pain</b> usually early periapical inflammation- look for necrotic tooth.</li> <li>If a <b>sharp, electric, or shooting pain</b> occasionally, to certain types of food (usually dry bread, crackers) with a cyclical history- think cracked tooth.</li> <li>If <b>sensitive to hot or cold</b>, think pulpitis.</li> <li><b>Positional changes-</b> think sinus or irreversible pulpitis</li> </ul> | Percussion<br>Palpation<br>Percussion<br>Palpation<br><br>Tooth Slooth<br><br>Cold test<br>? Hot test ean over, tap head |

**3. Dental Exam.** At this point, you are looking for things that might be the cause of pulpal problems in the area to which your patient pointed, or where referred pain is a reasonable possibility.

- History of carious damage to pulp.** Obvious deep caries, deep restorations, large restorations, or crowns.
- History of trauma.** Discolored tooth (bleeding inside the pulp leaves stain behind); radiographic evidence of change in pulp size or different pulp size from contralateral teeth, either larger (pulp necrotic and stopped normal secondary dentin formation) or smaller (trauma can cause excessive secondary dentin formation, which can strangle the pulp).
- Vertical root fracture or crown fracture.** Bacteria can enter the pulp through crack, and pulp becomes necrotic.
- Evidence of necrotic pulp.** Swelling, sinus tract.

**4. Diagnostic Tests.** These tests should be done on all suspect teeth as well as normal adjacent teeth and the contralateral tooth for comparison. Usually you do all the teeth in the suspect quadrant, the opposing quadrant in the posterior, and the contralateral tooth in any case.

- Cold test.** Tests pulpal response (A-delta fibers). Skin refrigerant is best (Endo-Ice is a brand name). Normal response is that your patient feels it within a few seconds, you remove the pellet, and the sensation goes away within 10-30 seconds. An exaggerated response is when your patient thinks the cold really hurts, and lingering pain to the cold indicates pulpal pathosis, usually irreversible pulpitis.
- Percussion.** Tests periapical tissue inflammation. Tap on the crown of the tooth down towards the root lightly to test how tender the periapical tissue is. If there is a tooth that is more tender, that usually indicates periapical pathosis or traumatic occlusion.
- Palpation.** Tests for inflammation just under bone. Press firmly on the gingival over the apices of the suspect quadrant teeth- note any area that seems more tender to patient.
- Periodontal probing.** Tests for an intact periodontal apparatus. Is periodontal disease present? Are there narrow defects that might indicate a vertical root fractures?

**5. Radiographs, if indicated.** If a non-pulpal diagnosis or reversible pulpitis has been ruled out, then periapical radiographs should be taken.

**6. Now, pull the information together and diagnose BOTH the pulp and the periapical regions.**

### Pulpal Diagnoses

Normal  
 Reversible Pulpitis  
 Irreversible Pulpitis  
     - Symptomatic  
     - Asymptomatic  
 Necrotic Pulp  
 Previously Initiated  
 Previously Treated

### Periapical Diagnoses

Normal  
 Apical Periodontitis  
     - Symptomatic  
     - Asymptomatic  
 Apical Abscess  
     - Symptomatic  
     - Chronic