

Periapical diagnoses

Diagnostic Term	+/- Secondary to	Definition and clinical presentation including symptoms	Response to diagnostic tests and findings from imaging procedures	Management recommendations to preserve the tooth
Clinically normal apical tissues		A clinical diagnostic category in which the apical area is healthy and the tooth is asymptomatic.	No pain on percussion and palpation. The lamina dura surrounding the root is intact, and the periodontal ligament space is uniform and within normal limits using imaging techniques (e.g., 2D radiograph, CBCT).	If pulpal diagnosis is deemed as Clinically Normal Pulp, endodontic intervention is not indicated.
Apical hypersensitivity	Secondary to: Hyper-occlusion Traumatic injuries Periodontal disease Non-odontogenic causes (e.g., neuropathic conditions, TMD)	A clinical diagnostic category where the apical area is healthy or mildly inflamed, but the inflammation is not of pulpal origin. Consequently, the patient reports symptoms upon mechanical stimuli (e.g., biting pressure or pain upon tapping on the tooth).	Mild or moderate pain on percussion. No apical radiolucency, or slight widening of the lamina dura, is observed on a periapical radiograph and/or a CBCT relative to control teeth.	Endodontic intervention is not indicated.
Localized symptomatic apical periodontitis		A clinical diagnostic category where the apical or the peri-radicular area is inflamed from a pulpal origin. The patient reports symptoms upon mechanical stimuli (e.g., biting pressure, pain upon tapping on the tooth) or intraoral swelling).	A peri-radicular radiolucency on a periapical radiograph, or areas of low density on a CBCT is likely, but not necessarily, present. Pain on percussion and/or palpation.	Endodontic intervention is indicated.

Localized asymptomatic apical periodontitis		<p>A clinical diagnostic category where the apical or the peri-radicular area is inflamed from a pulpal origin.</p> <p>The patient has no pain or discomfort.</p>	<p>A peri-radicular radiolucency on a periapical radiograph, or areas of low density on a CBCT, is present.</p> <p>No, or mild, pain to percussion and palpation.</p>	Endodontic intervention is indicated.
Localized apical periodontitis with sinus tract		<p>A clinical diagnostic category where the apical or the peri-radicular area is inflamed from a pulpal origin.</p> <p>The patient reports no or mild symptoms upon mechanical stimuli (e.g., biting pressure, pain upon tapping on the tooth). The patient may report the presence of a small swelling/pimple/bump on the adjacent soft tissue or extraorally.</p>	<p>A peri-radicular radiolucency on a periapical radiograph or areas of low density on a CBCT is present that extends to buccal or lingual/palatal cortical plate.</p> <p>The presence of sinus tract that may be traced to the tooth in question.</p>	Endodontic intervention is indicated.
Apical periodontitis with systemic involvement		<p>A clinical diagnostic category where the apical or the peri-radicular area is inflamed from a pulpal origin. Patient presents with clear signs of systemic infection (e.g., redness, hotness, fever, facial swelling, lymphadenopathy)</p>	<p>A peri-radicular radiolucency on a periapical radiograph or areas of low density on a CBCT is likely present.</p> <p>Diffuse facial swelling/facial asymmetry is observed</p> <p>Patients is likely having pain on percussion and/or palpation</p>	<p>Immediate endodontic intervention is recommended to relieve symptoms and/or drain any active infection.</p> <p>Antibiotics are indicated.</p> <p>Pain medication might be needed.</p>
Healing apical tissue		<p>A clinical diagnostic category associated with a previously treated tooth (e.g., previous root canal filling, previous</p>	<p>No pain to percussion or palpation.</p> <p>Follow-up radiographic images should be compared to pre-operative and/or earlier post-</p>	<p>Intervention is not indicated. Further monitoring is indicated.</p>

		<p>regenerative treatment) in which the apical and/or lateral periodontium show signs of endodontic disease resolution and the patient is clinically asymptomatic.</p>	<p>operative images. A peri-radicular radiolucency on a periapical radiograph or areas of low density on a CBCT may be seen but appears to be reducing in size. On a CBCT, emerging formation of trabecular bone and/or a decrease of the low density area around the apex of the tooth may be detected.</p>	
Inconclusive apical condition		<p>A clinical diagnostic category in which the patient has no clinical symptoms but the radiographic presentation is uncertain.</p>	<p>No pain to percussion or palpation.</p> <p>A) A peri-radicular radiolucency on a periapical radiograph or areas of low density on a CBCT are observed around the apex of the tooth with a "clinically normal pulp" or "inconclusive pulp status." Examples include lesions of non-odontogenic origin, expanding lesions from adjacent teeth, or transient apical breakdown following traumatic injuries.</p> <p>B) A peri-radicular radiolucency on a periapical radiograph or areas of low density on a CBCT are observed around the apex of a previously root canal-obturated tooth. There is no apparent change in size compared to the pre-operative and/or earlier post-operative images, or previous radiographs are not available for comparison</p>	<p>Further monitoring is indicated.</p> <p>Continued periodic monitoring would be recommended to observe any changes (increase or decrease) in the periradicular bone.</p>

Additional Comments:

Clinicians are encouraged to report both the size and extent of the peri-radicular radiolucency as part of the clinical diagnosis.

Definitions:

Control teeth - Adjacent or contralateral teeth that are employed for comparative clinical testing.

Low density – An area of darkness on a radiograph indicating that an object of low density is allowing complete or partial penetration by x-rays (AAE glossary 2020).

High density - An area of lightness on a radiograph indicating that the density of an object is preventing penetration by x-rays (AAE glossary 2020).

(Apical) diagnostic term - The term used to describe the state of the apical tissues.

Symptoms - Something that a person feels or experiences that may indicate that they have a disease or condition. Symptoms can only be reported by the person experiencing them. They cannot be observed by a health care provider or other person and do not show up on medical tests. (National Institute of Health <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/symptom>)

Within normal limits – Radiographically the lamina dura is intact and the periodontal space is uniform (AAE glossary 2020).

References:

AAE (2020) Glossary of Endodontic Terms. [Glossary Of Endodontic Terms - UPDATED MARCH 2020 050720.pdf](https://www.aae.org/-/media/assets/education/glossary-of-endodontic-terms-updated-march-2020-050720.pdf)

NHI National Cancer Institute. NCI Dictionary of Cancer Terms <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/symptom> [accessed on 7th June 2025].