Endodontics

National Dental Examining Board of Canada (NDEB) Virtual OSCE and Assessment of Fundamental Knowledge (AFK)

About 6% of the AFK · 5 topics · 2026 blueprint

Endodontics covers pulp and periapical diagnosis, root canal anatomy, cleaning, shaping and obturation, vital pulp therapy for mature and immature teeth, and endodontic complications. It is about 6% of the AFK in NDEB's 2026 blueprint. Its questions test interpreting tests to reach a diagnosis, knowing canal anatomy and choosing and sequencing treatment safely.

You should be able to: A tooth with a draining sinus tract does not respond to cold or electric testing and shows an apical radiolucency. What is the full diagnosis?

Every topic: the key point and the trap

EO-1 Pulp and periapical diagnosis

Pulp diagnoses: normal pulp, reversible pulpitis, symptomatic irreversible pulpitis, asymptomatic irreversible pulpitis, pulp necrosis, previously treated and previously initiated therapy.

Trap: Prescribing antibiotics for irreversible pulpitis, which does not relieve the pain.

EO-2 Root canal anatomy and access

The maxillary first molar often has a second mesiobuccal canal (MB2), located palatal and slightly mesial to the main mesiobuccal canal.

Trap: Assuming three canals in a maxillary first molar and finishing without searching for MB2.

EO-3 Cleaning, shaping, disinfection and obturation

Sodium hypochlorite (commonly 0.5 to 6%) dissolves organic tissue and kills bacteria; it is the main irrigant.

Trap: Following hypochlorite with chlorhexidine directly, which forms a precipitate in the canal.

EO-4 Vital pulp therapy and immature teeth

Direct pulp capping is placing a material over a small exposure in a vital, uninflamed or reversibly inflamed pulp; calcium silicate cements such as mineral trioxide aggregate give better results than calcium hydroxide.

Trap: Doing a full pulpectomy on a vital immature tooth, which stops root development and leaves a weak root.

EO-5 Cracks, fractures and treatment outcome

Cracked tooth: sharp pain on biting, especially on release, with a normal radiograph; a bite test on individual cusps reproduces it.

Trap: Retreating the root canal of a tooth with a vertical root fracture.

Key terms

Symptomatic irreversible pulpitis: Inflamed pulp that cannot heal, with lingering pain after cold or spontaneous pain.

Pulp necrosis: Death of the pulp, usually with no response to sensibility tests.

Sensibility test: Cold or electric test of the pulp's nerve response, not its blood supply.

MB2: Second mesiobuccal canal of maxillary molars.

Apical constriction: Narrowest part of the canal near the apex, the usual end point of working length.

Smear layer: Debris layer of dentin and organic material on canal walls after instrumentation, removed with EDTA and hypochlorite.

Apexogenesis: Vital pulp therapy that lets an immature root continue to develop.

Apexification: Creating an apical barrier in a necrotic immature tooth.

Mineral trioxide aggregate: Calcium silicate cement used for pulp capping, pulpotomy, apical plugs and root-end filling.

Vertical root fracture: Longitudinal fracture of the root, often in root-filled teeth, usually with poor prognosis.

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