Canal Access

Before starting analyse the PA radiograph and tooth morphology

Assess the distance between the occlusal surface and the pulp chamber. Note the root canal anatomy: number, length, curvature, calcifications.

Using your chosen bur, outline the access cavity design

A flat fissure bur is a good choice. For access cavity designs (*See Figure 7.2*).

Penetrate the pulp chamber at a single point above a recognisable canal orifice

If you have not already, place rubber dam now. If insufficient tooth is remaining to hold a clamp, a temporary GIC or RMGIC restoration can be placed circumferentially to facilitate this.

Use a *safe-ended* access bur or ultrasonic to remove the entire roof of the pulp chamber

Flush the chamber and coronal aspect of the canals with sodium hypochlorite

Use 2.5% (range 0.5-5.25%).
Hypochlorite safety: Use a side venting 27/30 guage needle, only fill the syringe ¾ full at a time, ensure clear labelling, inject slowly using your forefinger (never your thumb), irrigate using a gentle in and out motion making sure the tip does not bind, pass the syringe behind the patient's head, be mindful of droplets when removing the needle post-irrigation.

Use a DG 16 endo probe to locate canal orifices

The root canal system is complex and inaccessible and so the **activation of the NaOCl** helps to maximise its effect. Activation can be done via various methods with the use of ultrasonics being the most common. Other methods include photoactivated disinfection, sonic, preheated NaOCl and Er: YAG laser with an endodontic fibre tip.

At this point consider modifying your access cavity design to allow straight line access to canals. The goal is to allow thorough cleaning and shaping

Access cavity design principles

1. Allow removal of the entire contents of the pup chamber
2. Allow visualisation of the pulp floor and canal orifices
3. Allow direct access to apical 1/3 of the canal for instrumentation
4. Allow retention and support of a temporary filling material-good seal
5. Provide a reservoir for canal irrigant
6. Be as conservative as possible