

Caries removal




	Types of learning	Resources	UK General Dental Council learning outcome(s)*	Session learning outcome(s)
Session 1	Didactic elements Learner-centred Reflective Critical appraisal Peer review	2 carious teeth Chapter 9	1.14.1	Manage caries around the ADJ and at the periphery of the lesion
			1.1.3 1.1.2	Identify grossly carious teeth
			1.1.5 1.1.2	Recall and discuss the carious process
			1.1.1 1.14.5 1.14.1	Discuss basic elements of caries management
			1.14.1	Remove caries from the ADJ
				Appreciate the functional differences between the high and slow speed hand pieces
			1.1.1 1.1.5 1.1.4	Discuss the impact of caries and instrumentation on a vital pulp
			1.1.3 1.1.2	List the clinical signs and symptoms of a carious tooth
			1.14.1	Manage the wider carious lesion including access to the pulp space
				Enable students to investigate the relationship between advanced caries and the pulp
Session 2	Learner-centred Reflective Critical appraisal Peer review	2 carious teeth, one with a large restoration Chapter 9 Paper – DOI	1.14.1	Extend caries removal into deeper sections of the lesion
			1.1.6 1.1.5	De-roof the pulp chamber and appreciate the proximity of the pulp space
			1.1.3 1.1.2	Identify possible reactions of the pulp and hard tissues to physical insults
			1.1.6 1.1.5	Explore and compare pulp spaces in different tooth types

* - black (dentists), blue (therapists)

Teaching notes for Session 1

KEY POINTS:

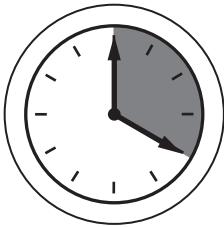
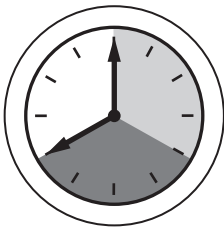

- ✓ Drive home the concept of clearing the ADJ before moving towards the centre of the carious lesion
- ✓ Highlight that fact that these sessions are one of the only opportunities that the students will get to indiscriminately cut tooth tissue in order to develop skills in hand piece control and tactile feedback.

	<ul style="list-style-type: none"> • Discuss the carious process and how it is diagnosed <ul style="list-style-type: none"> ▪ Explain the need to triangulate clinical signs, patient symptoms and radiographic evidence • Discuss the variety of symptoms that might present • Discuss the effects on enamel and dentine, and how this might present clinically • Encourage the students to examine their carious teeth and how the tissues have been affected/how they present <ul style="list-style-type: none"> ▪ Encourage the tactile exploration of the tissues and discuss the potential to cavitate early enamel lesions with hand instruments ▪ Ask the students to identify examples of new carious lesions and evidence of recurrent caries ▪ Develop the understanding of sites that are susceptible to the carious process
	<ul style="list-style-type: none"> • Demonstrate clearance of the ADJ <ul style="list-style-type: none"> ▪ Remove unsupported enamel with the high-speed pear-shaped bur and infected dentine with the low-speed stainless-steel burs and hand instruments • Iterate that this is a <i>simulated</i> exercise – normally we wouldn't be so destructive – we want to see the students able to access and clear the ADJ– remove all unsupported enamel and encourage the students to open up the lesion to improve visibility. • Discuss why we use the largest possible slow speed bur for carious dentine removal rather than the high-speed diamond <ul style="list-style-type: none"> ▪ Safety ▪ More discriminate tooth tissue removal ▪ Efficiency • Further develop the use of hand excavators and the importance of tactile feedback. <ul style="list-style-type: none"> ▪ Highlight the need for a good finger rest.
	<ul style="list-style-type: none"> • Ask students to manage the body of the lesion but do not enter the pulp space. Some teeth will have frank cavitation into the pulp space but for most, they will be able to leave the centre of the lesion alone. • Highlight that these simulated sessions are the only opportunity to deal with gross caries. Opportunities to explore natural teeth in this way are very rare.

Teaching notes for Session 2

KEY POINTS:

- ✓ Reinforce clearing the ADJ
- ✓ Encourage students to adopt a minimally invasive approach to carious dentine removal
- ✓ Investigate the anatomy of the pulp spaces

	<ul style="list-style-type: none"> • Discuss how to manage the body of the lesion after clearing the ADJ <ul style="list-style-type: none"> ▪ Highlight the need for a clear ADJ in order to place a well-sealed restoration ▪ How much caries to remove? Discuss the stepwise and total approach to caries removal and the associated benefits/risks ▪ When to stop and restore? Further develop the concept of making individual clinical decisions rather than expecting a clearly defined generic solution • Demonstrate entering the pulp space of a carious tooth <i>after</i> clearing the ADJ, using slow speed burs. Identify the anatomy including the pulp chamber roof and the floor. <ul style="list-style-type: none"> ▪ Note particularly the depth to which the burs are working, and the colour of the chamber floor
	<ul style="list-style-type: none"> • Many will identify pulp tissue but be unsure as to what it is – discuss as a group • Identify sclerotic areas and discuss possible reasons for this presentation • Ask students to be mindful of pins, root canal fillings, cotton wool and other restorative materials that they will be unaware of at this stage
	<ul style="list-style-type: none"> • Towards the latter parts of the session, students should be encouraged to think of how they might restore their teeth to obtain resistance and retention form. • Demonstrate paring back a molar tooth using a crown bur in an axial plane. Identify tissue changes, restorative materials, liners (including any dissolution of cement liners). Inspect underneath the restorations (if present). • Distinguish between types and sites of dentinal deposition – primary is developmental, secondary is age-related and tertiary is traumatic (reactionary if the odontoblasts are still alive, and reparative from pulpal regeneration if the odontoblasts have died). <ul style="list-style-type: none"> ▪ Look at the shape of the pulp chamber and how it has responded to coronal challenges, most significantly in relation to carious lesions or large restorations. • Reinforce that this session is one of the rare occasions that students will have a free-reign over what they are cutting!