

Dental Caries Diagnosis and Management

Occlusal surface/ Pits and fissures

Depth of lesion	Cavitation	Caries activity	Clinical appearances	ICDAS	Management	
					Permanent teeth	Primary teeth
Enamel caries	Non-cavitated lesions	Inactive	Shiny, hard and smooth surface white, brown, or black color without plaque deposition	1,2	Routine oral care ^a	
		Active	Rough, white, or yellow color with plaque deposition		Sealant ¹⁻³	
	Cavitated lesions	Inactive	Enamel breakdown without dentin visible, hard, brown or black color without plaque deposition	3	Sealant ³	
		Active	Enamel breakdown without dentin visible, soft with plaque deposition		Sealant (if regular check-up is possible) ⁵ / Minimally invasive restoration ^{4,b}	Sealant ³
Dentin caries	Non-cavitated lesions	Probably active	Smooth surface with dark shadow under enamel surface without enamel breakdown	4	Sealant (if regular check-up is possible) ⁵ / Minimally invasive restoration ^{4,b}	
	Cavitated lesions	Inactive	Underlying dark shadow from dentin Enamel breakdown without visible dentin, hard, brown, or black color without plaque deposition	4	Minimally invasive restoration ^{6,b}	

Depth of lesion	Cavitation	Caries activity	Clinical appearances	ICDAS	Management	
					Permanent teeth	Primary teeth
Dentin caries	Cavitated lesions	Inactive	Distinct cavity with visible dentin, hard, brown, or black color without plaque deposition	5,6	Minimally invasive restoration ^b	Routine oral care (if cleansable) / Minimally invasive restoration ^b
		Active	Underlying dark shadow from dentin Localized enamel breakdown without visible dentin	4	Minimally invasive restoration ^b	Minimally invasive restoration ^{6,b}
			Distinct cavity with visible dentin	5,6	Minimally invasive restoration ^b (Selective removal to soft dentin ^c : one visit or Stepwise removal ^d) ⁶	Minimally invasive restoration ^b (Selective removal to soft dentin ^c : one visit or SDF if inaccessible service) ¹¹

หมายเหตุ: คำจำกัดความและเอกสารอ้างอิงอยู่ด้านท้ายตาราง

Labial, Buccal, Lingual, Open contact proximal surface

Depth of lesion	Cavitation	Caries activity	Clinical appearances	ICDAS	Management	
					Permanent teeth	Primary teeth
Enamel caries	Non-cavitated lesions	Inactive	Shiny, hard, and smooth surface white, brown, or black color without plaque deposition	1,2	Routine oral care ^a	
		Active	Rough, white or yellow color with plaque deposition		Surface remineralization ¹² e.g. fluoride varnish	
	Cavitated lesions	Inactive	Enamel breakdown without dentin visible, hard, brown, or black color without plaque deposition	3	Minimally invasive restoration ^{4,b}	Routine oral care (if cleansable) ^a / Minimally invasive restoration ^b (esthetic concern)
		Active	Enamel breakdown without dentin visible, soft with plaque deposition			Surface remineralization ¹² e.g. fluoride varnish / Minimally invasive restoration ^b (esthetic concern)
Dentin caries	Non-cavitated lesions	Probably active	Smooth surface with dark shadow under enamel surface without enamel breakdown	4	Minimally invasive restoration ^{4,b}	
	Cavitated lesions	Inactive	Distinct cavity with visible dentin, hard, brown or black color without plaque deposition	5,6	Routine oral care (if cleansable) / Minimally invasive restoration ^b	

Depth of lesion	Cavitation	Caries activity	Clinical appearances	ICDAS	Management	
					Permanent teeth	Primary teeth
		Active	Underlying dark shadow from dentin Localized enamel breakdown without visible dentin	4	Minimally invasive restoration ^b	Minimally invasive restoration ^b / SDF (if inaccessible service) ¹¹
			Distinct cavity with visible dentin	5,6	Minimally invasive restoration ^b (Selective removal to soft dentin ^c : one visit or Stepwise removal ^d) ⁶	Minimally invasive restoration ^b (Selective removal to soft dentin: one visit) ^{6,9,10,c} / SDF (if inaccessible service) ¹¹

หมายเหตุ: คำจำกัดความและเอกสารอ้างอิงอยู่ด้านท้ายตาราง

Proximal surface (with contact)

Depth of lesion	Cavitation	Caries activity	Clinical appearances	Radiograph	ICDAS	Management	
						Permanent teeth	Primary teeth
Enamel caries	Non-cavitated lesions	Inactive	Shiny, hard and smooth surface white, brown, or black color may be seen around proximal area without plaque deposition	Radiolucency in enamel	RA 1,2	Routine oral care ^a	
		Active	Rough, white or yellow color may be seen around proximal area with plaque deposition			Surface remineralization, e.g. fluoride varnish ¹² / Sealant ^{13,14,16}	
	Cavitated lesions	Inactive	Enamel breakdown without dentin visible, hard, brown or black color may be seen around proximal area without plaque deposition			Routine oral care ^a	
		Active	Enamel breakdown without dentin visible, soft with plaque deposition*			Minimal invasive restoration ^b	
Dentin caries	Non-cavitated lesions	Probably active	Discoloration of tooth surface, non-tearing of dental floss during flossing*	Radiolucency : limited to the outer 1/3 of dentin	RA 3	Surface remineralization ¹² / Sealant ^{13,14,16} (if regular dental check-up is possible) / Minimal invasive restoration	

Depth of lesion	Cavitation	Caries activity	Clinical appearances	Radiograph	ICDAS	Management	
						Permanent teeth	Primary teeth
	Cavitated lesions	Active	Discoloration of tooth surface, tearing of dental floss during flossing Enamel breakdown may be seen from occlusal, buccal or lingual side CPI probe may be used to confirm the cavitation. ¹⁵ Plaque accumulation may be seen. *	Radiolucency : limited to the outer 1/3 of dentin	RA 3	Minimally invasive restoration ^b	
Dentin caries	Cavitated lesions	Active	Discolored dentin with shadow through intact marginal ridge, buccal, or lingual walls of enamel obviously seen when tooth is wet, ¹⁵ tearing of dental floss during flossing	Radiolucency : reaching the middle 1/3 of dentin	RB 4	Minimally invasive restoration ^b	
			Shadow of cavitation through discolored enamel with exposed dentin less than half of the proximal surface, CPI probe may be used to confirm the cavitation. ¹⁵	Radiolucency: reaching the inner 1/3 of dentin	RB 5	Minimally invasive restoration ^b (Selective removal to soft dentin ^c : one visit or Stepwise removal ^d) ⁶⁻⁸	

* ควรใช้วิธีการการแยกฟันด้วยยางแยกฟัน เพื่อประเมินการลุกลามของฟันผุและการเกิดรูฟันผุ¹⁶

หมายเหตุ: RB6 เป็นรอยผุที่ลุกลามถึงเนื้อเยื่อใน จึงไม่รวมอยู่ในตารางนี้

Root surface

Cavitation	Caries activity	Clinical appearances	Permanent dentition Management ^{17,18}
Smooth surface or slight concavity (< 0.5 mm)	Inactive	Shiny, hard and smooth surface Yellow, brown, or black color	<ul style="list-style-type: none"> • Fluoride varnish regularly every 3 months • Silver diamine fluoride regularly every 4-12 months + Routine oral care ^a
	Active	Soft with plaque deposition Yellow or light brown color	
Concavity (\geq 0.5 mm) or cavitation	Inactive	Shiny, hard and smooth surface Yellow, brown, or black color	<ul style="list-style-type: none"> • Fluoride varnish regularly every 3 months • Silver diamine fluoride regularly every 4-12 months • Minimally invasive restoration^b for esthetic concern along with fluoride varnish every 3 months as a preventive regimen + Routine oral care ^a
	Active	Soft with plaque deposition Yellow or light brown color	

หมายเหตุ: คำจำกัดความและเอกสารอ้างอิงอยู่ด้านหลังตาราง

คำจำกัดความ^a Routine oral care:

การดูแลรักษาสุขภาพช่องปากทั่วไป

1. แปรงฟันด้วยยาสีฟันผสมฟลูออไรด์ 1000 ppm อย่างน้อย 2 ครั้งต่อวัน
2. ใช้ไหมขัดฟันอย่างน้อยวันละ 1 ครั้ง
3. ควบคุมความถี่ของการรับประทานอาหารและเครื่องดื่มที่เสี่ยงต่อการเกิดฟันผุ
4. ควรพบทันตแพทย์เป็นระยะเพื่อตรวจสุขภาพช่องปาก

^b Minimally invasive restoration^{20, 21}:

การบูรณะฟันแบบอนินวสิว (minimal invasive restoration)

เป็นการบูรณะฟันที่กำจัดเฉพาะเนื้อฟันส่วนที่ผุ และบูรณะด้วยวัสดุที่เหมาะสมกับขนาดของโพรงฟัน เช่น กลาสไอโอโนเมอร์ ซีเมนต์ เรซิน คอมโพสิต เป็นต้น

^c Selective removal to soft dentin^{7,8}:

เป็นวิธีการเลือกกำจัดฟันผุ โดยกำจัดฟันผุบริเวณผิวเคลือบฟันและเนื้อฟันในส่วนที่ไกลจากเนื้อเยื่อใน (pulp) ออกทั้งหมด เพื่อให้เกิดการแนบที่ติของวัสดุอุด และเหลือส่วนที่นิ่มที่ใกล้เนื้อเยื่อใน เพื่อหลีกเลี่ยงการทะลุเนื้อเยื่อใน

^d Stepwise removal^{7,8}:

เป็นการกำจัดฟันผุเป็นลำดับขั้น โดยครั้งแรกกำจัดเนื้อฟันนิ่มออกบางส่วน และบูรณะฟันชั่วคราว หลังจากนั้น 6-12 เดือน ทำการกำจัดฟันผุส่วนที่เหลือจนหมดและบูรณะฟัน

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