

兒童牙科學 Pediatric dentistry

兒童牙科牙體復形學



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2003/10/6

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1

學習目標

- Students will be able to diagnose and treatment plan pediatric dental patients.
- Students will become proficient in the comprehensive treatment of a wide variety of pediatric dental patients.

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2

參考資料

- Dentistry for the child and adolescent (Ralph E. McDonald)
- Pediatric dentistry Infancy Through Adolescent (Pinkham)

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3

Summary

Produce a student who is confident and competent in all aspects of clinical pediatric dentistry, including state-of-the-art techniques of patient management and preventive, restorative, interceptive orthodontic, emergency care, practice management and communication skills.

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4

Primary Teeth Differ From Permanent Teeth

- Crown ... bulbous
- Occlusal table ... narrower
- Cervical ... constriction
- Enamel ... thinner (1.5~2.0 mm)
- Pulp horn ... prominent (MB)
- Direction of enamel prism in cervical region ... toward occlusal plane
- Contact area ... broader
- Pulp chamber ... larger
- Prominent enamel buccal cervical ridges
- Mineral content, color



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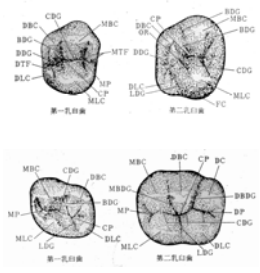
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5

Primary Dentition

表 1-1 各乳齒の形態

齒種	咬頭	根	根管
上乳前齒	1	1	1
第1乳臼齒 (2~4)	3	3	3
第2乳臼齒	4	3	3
下乳前齒	1	1	1
第1乳臼齒 (4~6)	2	3~4	3~4
第2乳臼齒 5~6	2~3	3~4	3~4



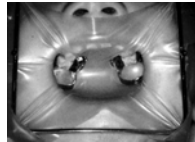
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Rubber Dam - Advantages

- Shield
- Comfortable
- Easy to manage
- Visibility
 - A dark contrasting background to the teeth
- Efficiency
- Dry field
- Decreased operating time
- Safety
- Salivary flow reduced



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7

Rubber Dam – Contraindications

- Upper respiratory infection
- Nasal obstruction
- Fixed orthodontic appliances
- A very recently erupted tooth
- Rubber allergy
- Vomiting

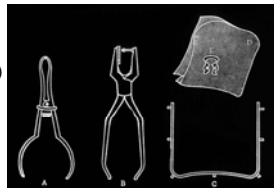
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8

Rubber Dam - Armamentarium

- Rubber dam
 - Medium gauge dark
 - 12.5x12.5cm (5x5inches)
- Rubber dam punch
- Rubber dam clamps
 - Permanent molars
 - Ivory 8A, 14A, 14
 - Primary molars
 - SSW 26, 27
 - Rubber dam forceps
 - Rubber dam frame
 - Young's frame
 - Dental floss



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9

Rubber Dam - Clamp selection

■ Common rubber dam clamps for pediatric restorative dentistry

Teeth	Clamp No.
Partially erupted permanent molars	14A, 8A* — Ivory†
Fully erupted permanent molars	14, 8 — Ivory
Second primary molars	3 — Ivory
	26, 27 — SS Whitet
First primary molars/bicusps/permanent canines	2, 2A — Ivory
Primary incisors and canines	0 — Ivory

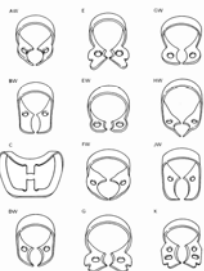
* "A" clamps have jaws angled gingivally to seat below subgingival heights of contour.
† Ivory Co., Inc., Philadelphia, PA.
‡ SS White, Philadelphia, PA.

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10

Rubber Dam - Clamp selection



Recommended first choice clamps are as follows:

	Ash* set	Other commonly-used clamps
Permanent molars partially erupted	AW*, FW, HW	Ivory 8A, 14A
Permanent molars fully erupted	BW, K	Ivory 3, 7, 14
Primary second molars	DW	Ivory 8A, 12A, 13A
Premolars	E/EW, G/GW	Ivory 2/2A
Permanent incisors & canines	C, E/EW	Ivory 6, 9

* Ash Dentsply
† W denotes a wingless clamp

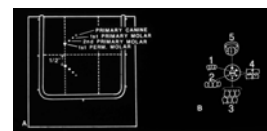
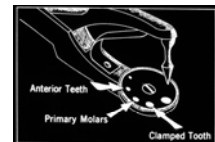
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11

Rubber Dam – Punching the holes

- Centered horizontally on the face
- The upper lip is covered by the upper border of the dam
- The dam does not cover the nostrils

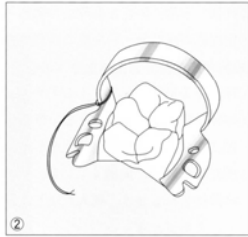
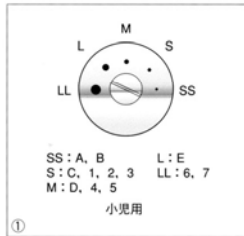


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12

Rubber Dam – Punching the holes



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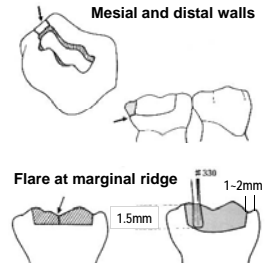
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13

Cavity Preparation

- Class I
- Class II

- No. 330 tungsten carbide bur
 - High speed
 - 100000-300000 rpm
- No. ½, 2, 4, 6 round bur
 - Low speed
 - 500-15000 rpm
- Intermittent cutting with light, brushing strokes



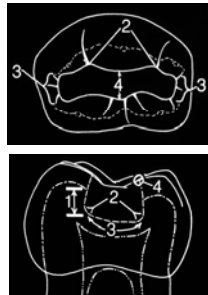
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14

Cavity Preparation - Occlusal Form

- Smooth
- Minimize stress
- Permit condensation
- Prevent secondary caries
- Isthmus < 1.5 mm
- Transverse and marginal ridge at least 1.0 mm
- Cavo-surface angle 90°
- Cavity depth 1.5~2.0 mm
- Round internal angle
- Parallel to tooth surface
- No bevel

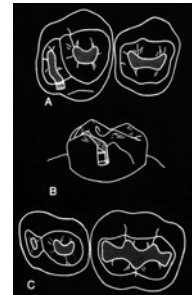
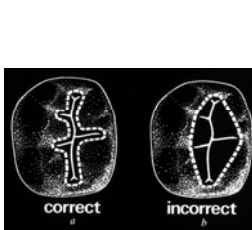


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15

Cavity Preparation - Occlusal Form



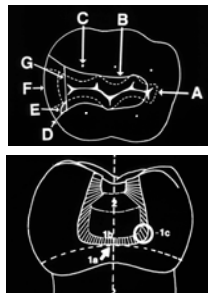
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16

Cavity Preparation - Proximal Box

- Gingival floor
 - below the contact area
 - supragingivally
- Width 1.0 mm
- Parallel to tooth surface
- Cavo-surface angle 90°
- Round axial pulpal line angle
- Dovetail for retention (occlusal portion)



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17

Cavity Preparation - Proximal Box

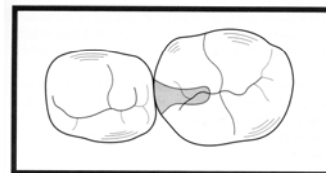


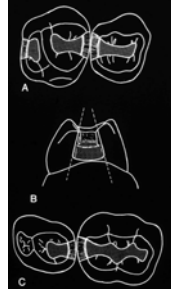
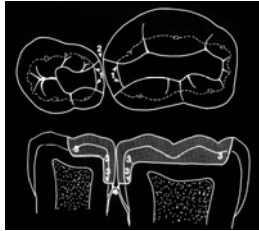
Figure 3.4 The modified outline-form of a class-II amalgam for primary molars.

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18

Cavity Preparation - Proximal Box

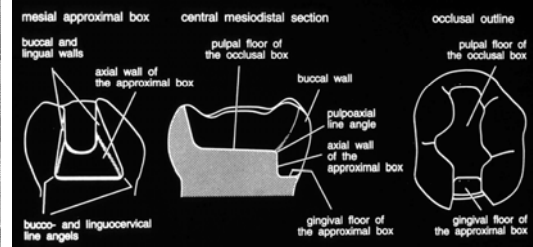


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19

Cavity Preparation - Proximal Box



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20

Cavity Preparation - Proximal Box

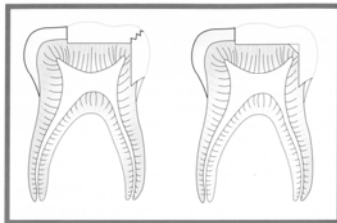


Figure 3.5 Bevelling of the axiopulpal-line angle increases the bulk of amalgam at the narrow isthmus and reduces the chance of fracture.

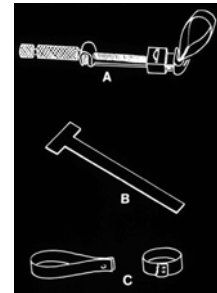
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21

Matrix Bands

- Tofflemire bands and retainer
- T bands
- Custom welded bands
- Faulty wedging



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22

Matrix Bands

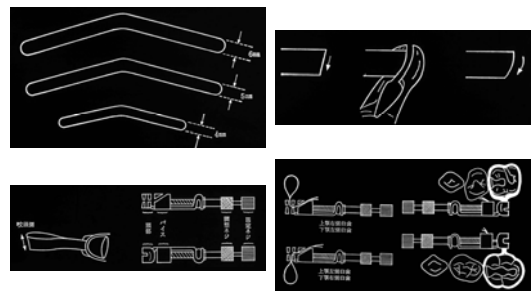
Band materials available		
Alloy	Thickness	Width
T-band		
Brass	0.0015 in. (0.0038 cm)	Narrow
Steel	0.0020 in. (0.0050 cm)	Wide
Welded		
Steel	0.0015 in. (0.0038 cm)	3/16 in. (0.47 cm)
		1/4 in. (0.63 cm)
		5/16 in. (0.78 cm)

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23

Tofflemire Bands and Retainer

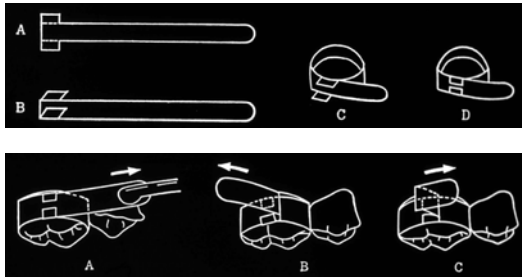


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T Bands



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25

Matrix Bands

- At least higher 1 mm than the marginal ridge of the adjacent tooth.
- The band must not be removed vertically, or it may fracture the amalgam at the marginal ridge.
- In the lower arch it is easier to remove the band buccally, whereas in the upper arch it is better to remove it palatally.

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Cavity Liners

- Should be used in all deep lesions
- Calcium hydroxide
- Should not be placed beneath composite resin restorations if the liners contain a zinc oxide eugenol compound

Cavity Varnishes

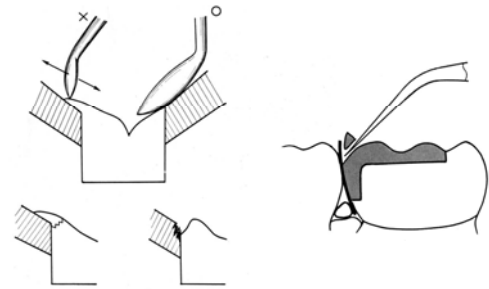
- Resin in an organic solvent
- Should be used before insertion of amalgam restorations
- Should be used on vital primary teeth before cementation of a SSC
- Should not be used beneath composite resin restorations

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27

Amalgam Restoration

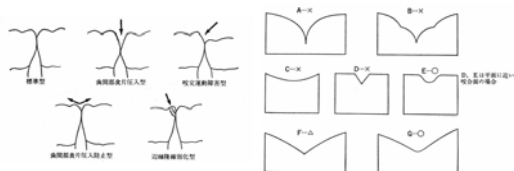


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28

Amalgam Restoration



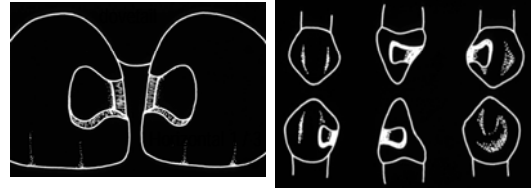
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29

Class III Cavity

Short bevel (0.5 mm)

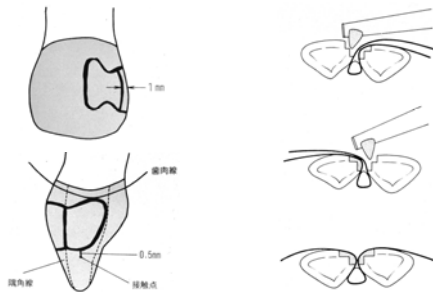


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30

Class III Cavity

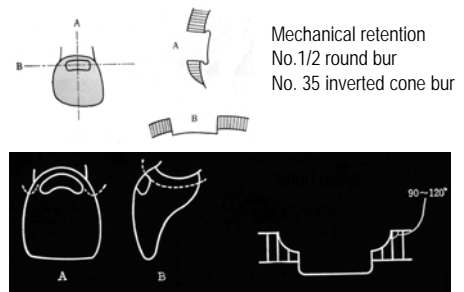


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31

Class V Cavity



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32

Tunnel Restorations

- Gain access to the proximal carious lesion from the occlusal surface
- Leave marginal ridge intact
- More resistant to fracture

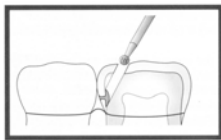


Figure 3.12 Method for preparation of a tunnel restoration. One problem is the proximity of the pulp horn to the cavity preparation. It may also be difficult to visualize the caries, especially in the roof of the tunnel.

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33