Get a better picture of operative dentistry from the more complete text on the market. Using a heavily illustrated, step-by-step approach, Sturdevant’s Art and Science of Operative Dentistry, 7th Edition helps you master the fundamentals and procedures of restorative and preventive dentistry and learn to apply them in practice. It’s the definitive reference for dentists, hygienists, and assist-ants. This new edition includes information on new restorative materials, new classifications of operative dentistry, new diagnosis and treatment planning, and more. It’s the perfect companion to Clinical and Operative Dentistry: Theory and Practice of Modern Operative Dentistry.

In the 7th edition of Sturdevant’s Art and Science of Operative Dentistry, you will find:
- An improved focus on operative dentistry
- A more patient-centered approach to care
- New classifications of operative dentistry
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This book is perfect for dentists, hygienists, and assistants who want to improve their understanding of operative dentistry and learn to apply it in practice. It’s the definitive reference for those who want to get a better picture of operative dentistry.

Chapter 1: Introduction to Operative Dentistry

1. All unsupported enamel tooth structures are normally removed. 2. Fault, defect, or caries is removed. 3. Remaining tooth structure is left as strong as possible.

Chapter 2: Introduction to Composite Restorations

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Chapter 3: Introduction to Amalgam Restorations

The teeth and supporting tissues are important in maintaining the vertical dimension of the face. Lesion depth in P/F was 90% in the outer enamel with only 10% into dentin. Distinct visual change in enamel; seen when wet, and increasing with age; with a decrease in lesion depth in P/F, 10% internal enamel and 90% into the outer 1/3 dentin. Localized enamel breakdown with no visible dentin.

Chapter 4: Indirect Tooth-colored Restorations

Reduced clinical access to caries experience in enamel; with a decrease in lesion depth in P/F, 50% internal enamel and 50% into the outer 1/3 dentin. Sclerotic dentin formation occurs ahead of the demineralization front of a slowly advancing lesion and may be seen under a microscope. The lesion is shiny and darker in color but feels hard to the explorer tip. By contrast, normal, freshly cut dentin lacks a shiny, reflective appearance.

Chapter 5: Case Reports

Etiology and Clinical Characteristics

"You don't know how much you know… Until you know how much you don't know…" This chapter presents basic definitions in epidemiologic and clinical terms to provide a foundation for the understanding of the etiology and clinical characteristics of dental caries.

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preparation stage
Step 1: Outline form and initial depth
Step 2: Primary resistance form
Step 3: Primary retention form
...Removal of any remaining infected dentin or old restorative material (or both), if indicated
Step 6: Pulp protection, if indicated
Step 7: Secondary resistance and retention forms
Step 8: Procedures for finishing external walls
Step 9: Final procedures—cleaning, inspecting, desensitizing

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Definition
Establishing the outline form means: 1. Placing the preparation margins in the positions they will occupy in the final preparation except for finishing enamel walls and margins. 2. Preparing an initial depth of 0.2–0.5 mm pulpal of the DEJ position or 0.8 mm pulpal to normal tooth surface position (no deeper initially whether in the tooth structure, air, old restorative material, or caries unless the occlusal enameline thickness is minimal and greater dimension is necessary for the strength of the restorative material) (Fig. 9.6). Principles

The three general principles on which outline form is established regardless of the type of tooth preparation being prepared are as follows:

1. All unsupported or weakened (friable) enamel usually should be removed.
2. All faults should be included.
3. All margins should be placed in a position to allow finishing of the margins of the restoration.

Factors

In determining the outline form of a proposed tooth preparation, certain conditions or factors must be assessed. These conditions affect the outline form and often dictate the extensions.

i. The extent of the caries lesion, defect, or faulty old restoration affects the outline form of the proposed tooth preparation because the objective is to extend to sound tooth structure except in a pulpal direction.

ii. Esthetic considerations not only affect the choice of restorative material but also the design of the tooth preparation in an effort to maximize the esthetic result of the restoration. Correcting or improving occlusal relationships also may necessitate altering the tooth preparation to accommodate such changes, even when the s-shaped tooth structure is not faulty (i.e., a cuspal form may need to be altered to effect better occlusal relationships). In the desired cavo-surface marginal conturation of the proposed restoration affects the outline form. Restorative materials that need beveled margins require tooth preparation outline forms ABC 0.75 mm 0.2 mm 0.2 mm 0.2 mm 0.75 – 0.8 mm DEJ DEJ DEJ DEJ DEJ. Fig. 9.6 Initial tooth preparation stage for conventional preparations, A, B, and C, initial depth is approximately two-thirds of the bur head length, or 2 mm, as related to prepared facial and lingual walls, but is half the No. 245 bur head length, or 1.5 mm, as related to central fissure location. Chapter 09.indd 165

Fundamentals of Tooth Preparation and Pulp Protection

Extensions in all directions are to sound tooth structure, while maintaining a specific limited pulpal or axial depth regardless of whether end (or side) of bur is in dentin, caries, old restorative material, or air. The dentinoenamel junction (DEJ) and the cementoenamel junction (CEJ) are indicated in B. In A, initial depth is approximately two-thirds of the bur head length, or 2 mm, as related to prepared facial and lingual walls, but is half the No. 245 bur head length, or 1.5 mm, as related to central fissure location. Chapter 09.indd 165