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COMPOSITE MATERIALS IN DENTISTRY

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Abstract

Background: Composite materials are widely used in modern dentistry due to their favorable mechanical, biological, and aesthetic properties. Continuous improvements in material science have enhanced their clinical performance and durability.

Objective: To review the classification of composite materials and evaluate the clinical significance of composites with light-resistant coatings.

Methods: A literature-based analytical review was conducted using contemporary scientific publications and educational sources related to dental composite materials.

Results: Composite materials are classified according to filler particle size, polymerization mechanism, and clinical application. Composites with light-resistant coatings demonstrate improved color stability, reduced surface degradation, and enhanced resistance to environmental factors.

Conclusion: Composite materials with light-resistant coatings represent a significant advancement in dental materials, contributing to improved longevity and aesthetics of restorations.

Keywords: Composite materials, dental composites, classification, light-resistant coating, color stability.

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1. Introduction

The introduction of composite materials has revolutionized restorative and prosthetic dentistry. These materials provide an optimal combination of strength, aesthetics, and clinical versatility.

2. Classification of Composite Materials

Composite materials may be classified according to filler particle size, polymerization mechanism, and clinical application.

3. Composite Materials with Light-Resistant Coatings

Light-resistant coatings improve resistance to ultraviolet radiation, reduce water absorption, and limit pigment penetration, thereby enhancing color stability.

4. Mechanism of Action

Protective coatings reduce photochemical degradation and decrease surface porosity, improving durability and resistance to staining.

5. Clinical Significance

These materials are particularly valuable in aesthetic and prosthetic dentistry due to improved longevity and surface quality.

6. Conclusion

Advances in composite materials significantly improve clinical outcomes. Proper material selection remains essential.

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