# METHODS OF FILLING WITH COMPOSITES

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Successful tooth restoration with composites requires careful implementation of all stages of carious cavity preparation, strict adherence to the rules of working with the adhesive system and restoration material. To achieve good fixation of a composite restoration, obtain a reliable marginal fit and high spatial stability of the filling, and prevent complications, various methods of filling with composites are used, which can be conditionally divided into four groups:

1. Adhesive technique.

2. Bonding technique.

3. Sandwich technique.

4. Layered restoration technique.

We will look at adhesive filling and bonding techniques.

The adhesive restoration technique is the most common and popular in practical therapeutic dentistry. It provides adhesion of the composite to both enamel and dentin. Stages of applying a composite filling:

1. Cleaning the tooth surface.

2. Planning the construction of the restoration and choosing the color of the filling material.

3. Preparation of a carious cavity.

4. Isolation of the tooth from saliva.

5. Medicinal treatment and drying of the carious cavity.

6. Applying a gasket.

When using dentin adhesives, the insulating pad is applied only to the bottom, without going to the walls.

7. Application of adhesive system.

8. Introducing composite filling material into the cavity and curing it.

Light-curing composites are introduced into the cavity layer by layer, taking into account the possibility of directional polymerization of each portion. The optimal thickness of each such layer is 1.5-2 mm. Each layer is polymerized separately.

9. Final processing of the restoration.

10. Recommendations for the patient.

11. Control examination of the patient, assessment of the quality of the restoration.

The quality of a composite restoration should be assessed according to the following criteria:

1. Correspondence of the shape of the restoration to the anatomical shape of the tooth being restored.

2. Marginal fit of the filling.

3. Match the color of the restoration to the color of the restored tooth.

4. The presence of a “dry” shine of the restoration.

5. Homogeneous structure of the restoration structure.

Bonding technique used for filling with composites that have hydrophobic adhesive systems that provide bond only to tooth enamel. Many stages of filling teeth using the bonding technique are performed according to the same rules as with the adhesive restoration technique. The difference between this technique and the adhesive one is as follows:

1.Cleaning teeth from plaque.

2.Planning the construction of the restoration and selecting the shade of the filling material.

3. Preparation of a carious cavity.

Considering the fact that the adhesion of the filling to the tooth tissue in this case occurs only in the area of contact of the material with the enamel, to increase the area of their contact it is necessary to create an enamel bevel at an angle of 45°.

4. Isolation of the tooth from saliva.

5. Medicinal treatment and drying of the carious cavity.

6.Applying an insulating pad. The entire dentin surface must be covered with an insulating spacer.

7. Acid etching (conditioning) of enamel.

8. Application of enamel bonding agent.

9. Photopolymerization of bonding agent.

10. Introducing composite filling material into the cavity and curing it.

Light-curing composites are introduced into the cavity layer by layer, taking into account the possibility of directional polymerization of each portion. Final processing of the filling; postbonding is acceptable. According to indications, mineralization of the enamel areas adjacent to the filling is carried out. Thus, both filling techniques are important and their use depends on the choice of filling material.

**Bibliography:**

1. Betancourt D.E., Baldion P.A., Castellanos J.E. Resin-dentin bonding interface: Mechanisms of degradation and strategies for stabilization of the hybrid layer. — Int J Biomater. — 2019.

2. Mahn E. Адгезивная техника – так же просто, как писать // DENTALLIFE.-2008.-№ 5.-С.4-4).

3. Хасханова Л. М., Разумова С.Н. Сравнительная характеристика адгезивной прочности адгезивных систем пятого поколения при модификации адгезивного протокола //Медицинский алфавит. № 2. 2022, С63-66.