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VENEERS AND THEIR PROPERTIES AND APPLICATIONS***Khojimuradov Burkhan Ravshanovich****Assistant Department of orthopedic dentistry, Samarkand State Medical University, Samarkand,
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ABOUT ARTICLE

Key words: Porcelain, color of the tooth, Veneers. **Abstract:** Veneers are porcelain or ceramic linings that replace the outer layer of teeth. They allow you to correct violations of the shape and color of the tooth, as well as protect your teeth (for example, when playing wind instruments). Veneers are made according to the shape, color of the patient's teeth and his wishes.

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INTRODUCTION

Veneers are porcelain or ceramic linings that replace the outer layer of teeth. They allow you to correct violations of the shape and color of the tooth, as well as protect your teeth (for example, when playing wind instruments). Veneers are made according to the shape, color of the patient's teeth and his wishes.

A veneer is a plate with a thickness of 0.2 mm, glued to the labial, that is, the labial side of the tooth and performing aesthetic, restorative, masking, phonetic and alimentary functions. The composite plate is an organic bisgma resin filled with ceramic or glass microparticles. An example of a ceramic plate is lithium disilicate glass ceramics.

For the manufacture of veneers, by and large, aggressive preparation of tooth enamel is not required, in some cases (microdentation or abrasion) it is possible to manufacture veneers without dissecting tooth tissues. If the occlusal and gnathological principles are observed in the clinic by the operator and the entire technological regulations are observed in the laboratory by the technical engineer, this restoration method has long-term forecasts and can be widely recommended for use



Indications and contraindications for use

Indications

- gaps and gaps between teeth;
- curved tooth shape;
- wedge-shaped defect;
- tooth abrasion is not more than the second degree;
- cracks and chipped tooth enamel;
- discoloration of the tooth (trauma, depulped tooth, fluorosis, initial stage of hypoplasia, etc.).

Contraindications

- malocclusion;
- absence of molars;
- second and higher degree of tooth abrasion;
- the presence of bad habits that can damage veneers;
- the presence of a filling on most of the tooth;
- high degree of tooth destruction;

- Bruxism.

Advantages and disadvantages

Dignities

- Speed of manufacture - in the case of composite veneers, one visit is enough.
- Durability, especially in the manufacture of ceramic veneers.
- Excellent cosmetic effect due to the absence of metal and other opaque materials.
- Modern veneers let in light so that teeth look natural.

Disadvantages

- Low strength, especially composite veneers.
- Low masking ability with a significant change in tooth color.
- High price of ceramic veneers.
- The grinding of the enamel is irreversible. In case of complete removal of the veneer, additional restoration of the tooth will be required.

Materials science in dentistry is rapidly developing, new materials and technologies are emerging that allow to restore and correct the color, shape and position of teeth; modern aesthetic designs help to recreate a harmonious dentition and smile. Aesthetic dentistry has become one of the most dynamic and sought-after areas in clinical dentistry [2]. The development of aesthetic standards has acquired a global scale. Terms and concepts in ES-

surgical dentistry. Aesthetic dentistry is a field of dental science that studies the aesthetics of the maxillofacial region, its norms, as well as anomalies and deformities, methods of their elimination and prevention. The main purpose of aesthetic treatment is to recreate the appearance of teeth that is closest to the natural one, to reproduce the beauty and naturalness inherent in the dentition. This is a type of treatment that eliminates the problem and corrects the function. Modern aesthetic dentistry has a serious ethical framework that aims to improve the overall condition of the teeth. Among dental diseases, the pathology of hard dental tissues is most common. Indicators of the need for their treatment

among the population are largely associated with the high prevalence of caries and non-carious dental lesions, as well as with the lack of motivation in patients to prevent and treat this pathology [2]. In the treatment of the anterior group of teeth, the main requirements are aesthetics and durability of restorations. Thanks to modern sealing materials and technologies, these tasks are quite feasible.[3] But it is necessary to take into account indications and contraindications, the type of pathology, the age of the patient, indicators of general somatic polymorbidity, reasonably choose a filling material and a treatment method, follow the rules of preparation of hard tissues of teeth, taking into account the pathological process and the technique of restoration [4].

High technologies are a priority in dentistry, which include the technique of direct facing of frontal teeth with light-cured composites. An indication for the use of a direct veneer is a defect in the hard tissues of the tooth from 1/3 to 1/2 of the crown volume, the need to correct the shape, color or position of the tooth [4]. It is known that it is easier to achieve a good aesthetic result with the help of a veneer and the long-term data on this indicator is better in comparison with the traditional method of aesthetic dental restoration using even the most modern light-curing composite filling materials [6].

In therapeutic dentistry, direct aesthetic restoration of teeth using modern light-curing composite filling materials is most often used. The main indications for its implementation are the need to restore the aesthetic and functional parameters of the tooth in the treatment of caries and its complications, non-carious lesions of the teeth, as well as correction of the aesthetic parameters of the tooth. Contraindications are absolute and relative.

Veneers allow you to achieve a high aesthetic result when the color of the tooth changes and there are defects in the dental surface. In the process of vital activity, teeth are affected by a variety of organic and inorganic dyes, which can affect teeth in different ways: some dyes are deposited only on the surface of the teeth, some penetrate into hard tissues (enamel, dentin). Veneers have become the best option for aesthetic prosthetics of the frontal group of teeth. Their manufacture does not affect the adjacent periodontal tissues, which is quite important. Modern materials used in the manufacture of ceramic and zirconium veneers are inorganic substances and compounds such as porcelain (ceramics) and zirconium dioxide. Porcelain is a ceramic

vitreous material, smooth and completely impermeable. Zirconium dioxide is a zirconium compound that occurs in nature and has been used in orthopedic dentistry for 10-15 years. It is partially stabilized by yttrium and also enriched with aluminum. This gives it such positive characteristics as bending strength (> 1400 MPa*) and stiffness [5].

Purpose: To study the properties of ceramic and zirconium veneers, their advantages and disadvantages.



Veneers are a metal-free method of prosthetics. The absence of a metal frame in them makes it possible to improve the aesthetics of the dentition. The light that hits the veneer can penetrate to different depths of the material and reflect from the tooth tissues, so the veneer will not differ in any way from neighboring teeth

Ceramic veneers. They are made of ceramics by an indirect method in dental laboratories.

Ceramic materials for screws can be divided into several groups:

- 1) cast glass ceramics
- 2) ceramics for hot pressing
- 3) traditional ceramics based on feldspar.

Ceramic veneers are used in various cases, most often to eliminate small defects or chips of the front teeth. In addition, they are often used to eliminate diastemas, correct the shape and position of the tooth

The main advantages of ceramic veneers include:

1. Resistance to staining with dyes. When using photo-cured materials, after eating food that has any dyes, their color changes over time, and stains appear on the teeth. Unlike them, ceramic veneers are resistant to dyes, since the surface of such a veneer is smooth and not permeable, this is determined by the properties of ceramics. Therefore, spots do not appear on their surface.

2. Strength, durability. Ceramic veneers have high strength, and are resistant to abrasion and wear.

3. Aesthetics. Veneers are color-stable, it is possible to choose and modify their color, shape, and the fluorescent effect of ceramics.

4. Biocompatibility with surrounding tissues. Plaque accumulates less on the ceramic surface

But ceramic veneers also have their drawbacks. Due to medical errors (underestimation of occlusal factors, occlusal plane, morphology of the chewing surface of teeth, hypertonicity and hyperactivity of the chewing muscles, improper preparation, etc.) and omissions of technical manufacture, chipping of ceramic linings is possible and, under certain circumstances, even more serious complications, both aesthetic and functional,

up to their complete loss [3]. But the frequency of fixation and chipping of the veneer does not significantly depend on the type of tooth

Zirconium veneers. One of the varieties of veneers that are made of zirconium dioxide. Such veneers have a main feature - they are made in the same way in laboratories as ceramic veneers, but not by the hands of a technician, but by means of automated, fully robotic equipment - CAD/CAM. This avoids a number of errors.

Crowns based on ICE Zircon with reinforced lining strength.

Such a zirconium dioxide crown has high strength in places that are subjected to a higher chewing load, since it has a thicker base layer of this material.

Unlike ceramic veneers, zirconium dioxide-based microprostheses are used even in the most difficult clinical cases. For example, if the color of the tooth is so changed that it can shine through ceramics, or there are large interdental gaps in the dentition, the teeth "find" each other, there are rotations of the tooth around its axis, etc. Zirconium dioxide is a very durable and lightweight material, therefore the fibers based on it are thin.

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