

Limited partial edentation. Indications and stages of prosthetic treatment with metal-fused ceramic Bridge Dentures.

Porcelain, as covering material, can be used not only in manufacturing single artificial dental crowns, and dental bridges. **A ceramic material** may be defined as any inorganic crystalline oxide material. It is solid and inert.

*Special attention in planning of metal fused ceramic BD should be given to **indications** for their using.*

Must be taken into considerations the following facts:

- 1) possibility of covering abutments with metal fused ceramic crowns
- 2) determination the possibilities of manufacturing metal fused ceramic bridge denture pontic
- 3) according to considerations of some authors such BD are indicated at the absence of 2-3 neighboring teeth, (using noble metal alloys), and at 2-4 neighboring teeth (using stainless steel alloy).

Contraindications to metal fused ceramic BD using include:

Local:

Relative:

- young patient (till 18 – 23);
- inflammation process in apical tooth area;
- inflammation or pathological process in mucosa of the oral cavity etc.

Absolute:

- large defects of dentition (3-4 neighboring teeth and more);
- III degree of pathological tooth mobility of support teeth;
- untreated or impossible to treat inflammation process in apical tooth area;
- defects, limited with supporting teeth with low clinical crowns, when support teeth preparation will result in significant shortening of abutment teeth and bad fixation of bridge denture;
- at compensated form of pathological teeth abrasion when support teeth preparation it is also difficult, or, contrary, at uncompensated forms of pathological abrasion when interocclusal space at rest mandible position is more than 5 mm –in this case the layer of ceramic is too large and can broke with time;
- patients with parafunctions of mastications muscles - because of possibility of porcelain cracking due to excessive contraction of masticatory muscles;
- deep kind of occlusion;

General:

Relative:

- cardiac accident;
- infection deseases;

Absolute:

- some mental diseases in acute form etc.
- patients with unstable mentality, awaiting from doctor unusual effects or distorted even with quite successful results of the treatment.

Variants of combined metal fused ceramic BD

A) Depending on physiognomical properties: 1. Total physiognomical;

2. Half or semiphiysiognomical.

B) Depending on used metal alloy:

1. On nonnoble metal alloy;

2. On half-noble metal alloy;

3. On noble metal alloy.

Clinical-laboratory stages of M/C BD manufacturing:

Cl - examination of the patient, diagnosis, treatment plan, support teeth preparation, retraction of the gums, getting impressions, determination and fixation of centric occlusion and vertical dimension, making and fixing temporal bridge denture;

Lab – manufacturing working and auxiliary models and their fixing in simulator, modeling framework from wax, changing wax on metal, testing metal part of BD on model;

Cl – verification the design of the metal frame, determination the color of ceramic lyner;

Lab – ceramic layering;

Cl – testing BD in the oral cavity;

Lab – glazing;

Cl – testing and fixing BD, recommandations.

Possible errors at M/C B D manufacturing:

- 1) incomplete examination of patient with wrong determination of clinical status of support teeth and as a result - functional overloading;
- 2) inadequate previous special training, which did not eliminate disorders of occlusion;
- 3) injuring mucous membrane of alveolar process (in case of errors in modelling pontic of BD, which was created with large contact area with mucousa);
- 4) absence of multiple occlusal contacts of BD with teeth antagonists;
- 5) incorrect modeling cusps of artificial teeth;
- 6) increasing interalveolar height on dental bridge;
- 7) poor aesthetic quality of bridges because of incorrect modeled shape of BD etc.