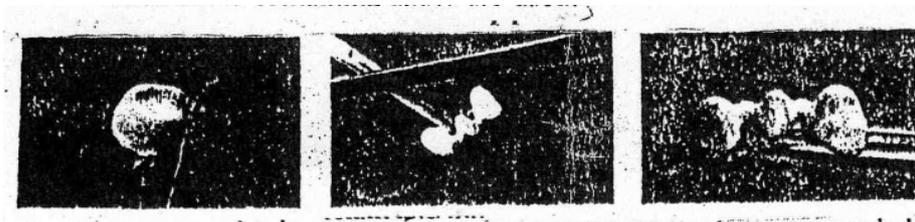


Applying opaque porcelain Traditional Application

First Opaque Porcelain Application

Mix the opaque powder with Ceraimo opaque modeling liquid or distilled water to a creamy consistency which allows the material to be applied in a thin, even layer. Ceramco opaque modeling liquid improves the handling characteristics of the opaque porcelain and inhibits discoloration of the porcelain on silver-based alloys.

NOTE: The use of Ceramco opaque modeling liquid is strongly recommended when silver-containing alloys are used



Holding the framework with a hemostat or locking tweezers, apply the first opaque porcelain layer thin and evenly with a brush or instrument.

I

Holding the framework with a hemostat or locking tweezers, apply the first opaque porcelain layer thin and evenly with a brush or instrument.

Tap the hemostat very lightly to condense and smooth the opaque porcelain surface. Do not use excessive vibration or allow thick layers of opaque porcelain to accumulate in occlusal, interproximal or marginal areas. Thick layers of opaque porcelain will tear or fissure during the firing process.

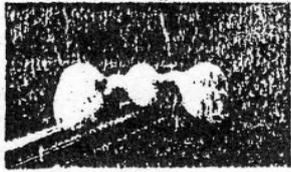
Dry the opaque porcelain with warm, forced-air equipment or by holding the casework close, to, but not in, the entrance of the furnace. Do not use extreme heat to dry the opaque layer. Excessive heat causes blisters, peeling, or tearing of the opaque porcelain.

Fire the first opaque porcelain layer.

After firing, the first opaque porcelain layer should have a distinct sheen on the surface, but should not appear glazed. Use the visual indicators to assess the effect of the selected firing schedule. If the opaque layer appears underfired (dull) or overfired (glazed), remove the fired opaque by grinding or blasting, then reapply the opaque layer and fire using an adjusted firing schedule.

Second Opaque Porcelain

Remoisten the dried opaque porcelain mixture with distilled water only. The consistency for the second layer of opaque porcelain should be slightly more viscous than the initial mix.



Apply the second opaque porcelain layer using the same technique as the first layer. Make sure that this layer is thick enough to finish masking the metal substructure. (A fired layer of 0.2 mm of opaque porcelain is required to completely mask dark metal surfaces.)

Do not allow thick layers of opaque porcelain to accumulate on concave areas such as the occlusal grooves, interproximals or lingual shoulders. Excessive thickness of the opaque layer will cause fissuring during the firing process. Fire the second opaque porcelain layer so that the surface has a slight sheen.

Applying opaque porcelain

1. Find the equivalents:

Нанесение фарфора, смешивать, наносить массу, порошок, моделирующая жидкость, тонкий ровный слой, сплав на основе серебра, каркас, поверхность, скапливаться на жевательной поверхности, процесс обжига, печка, вязкий, сушить, блеск, скрыть темные металлические поверхности, недожечь, пережечь.

II. What questions can you ask to suit the given answers:

1. _____?

■ Mix the opaque power with distilled water or modeling liquid.

2. -----?

— Opaque modeling liquid improves the handling characteristics of the opaque porcelain.

3. _____?

— Apply the first layer thinly and evenly.

4. -----? _____

— Dry the opaque porcelain with forced- air equipment.

5. _____?

— No, you can't use extreme heat to dry the opaque layer.

6. _____?

— You must reapply the opaque layer, and fire again.

III. Complete the sentences:

1. When silver-containing alloys are used it's better to use ...
2. The first opaque porcelain layer must be
3. If the layer of opaque porcelain is thick it may cause....
4. Before firing the first opaque porcelain layer
5. You must reapply the opaque layer if....
6. When you apply second opaque porcelain layer you should

IV. Translate into English:

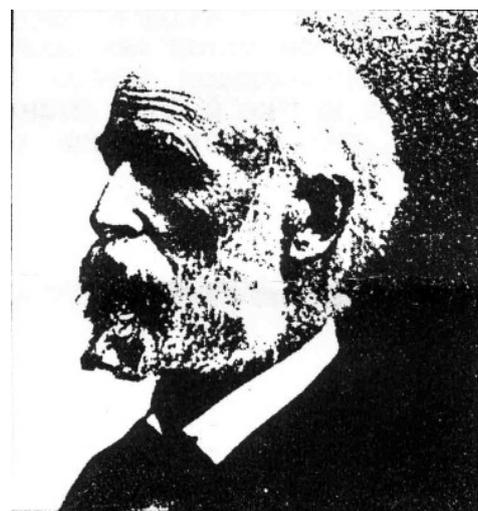
Чтобы нанести первый слой опак, следует смешать опак с моделирующей жидкостью или дистиллированной водой. Очень важно нанести ровный тонкий слой. Поверхность должна быть гладкой. Зубной техник не позволяет фарфору скапливаться на окклюзионных поверхностях. Конечно же, вам нужно использовать печку для обжига.

Не пересушите фарфор или не досушите. Если это произошло, нанесите слой заново. Это неприятно, но необходимо. Блеск важен при работе с фарфором. Он не должен быть очень ярким, но в то же время и не должен выглядеть глянцевым.

V. Say about:

- Applying of the first opaque porcelain (materials & demands to layers);
- Drying and firing;
- Applying of the second opaque porcelain layer;
- Accumulation of porcelain on different areas.

Е.Н.Овсянникова Английский язык для стоматологов. -
М.: ЗАО Редакция журнала «Новое в стоматологии»



CAVITY PREPARATION

Cavity preparation is a procedure aimed at removing caries and a limited amount of healthy tooth structure to prepare the tooth to retain a restoration, At the beginning of this century an "American dentist G. V. Black formulated principles of cavities design and suggested steps of their preparation. These principles remained unchanged for more than half a century.

Class I - Caries affecting pits and fissures.

Class II - Caries affecting approximal surfaces of posterior and premolar teeth.

Class III - Caries affecting approximal surfaces of anterior teeth.

Class IV - Caries affecting approximal surfaces of anterior teeth and involving the incisal angle.

Class V - Caries affecting cervical surfaces.

At present his principles have been greatly revised due to some new scientific findings. Class VI was added. Class VI cavities or abrasions involve the abraded incisal edge of anterior teeth or occlusal surfaces of posterior teeth. The general principles of cavity design depend on the structure and properties of dental tissues, the disease itself and the properties of restorative materials. In case of caries a dentist must first gain access to it. It can be rather easy with initial lesions on the buccal and lingual surfaces and much more difficult on occlusal and approximal surfaces and around existing restorations (this is the most problematic case). In all cases a dentist must ensure minimal tooth reduction, retaining occlusal areas where possible.

Caries removal should start in the area of cavitation. Preparation can be done with a round steel bur in a low-speed handpiece.

Then a dentist removes caries from the enamel-dentine junction. At the final stage caries is removed from dentine over the pulp. It's sometimes problematic to distinguish between the dentine which should be removed and that which may be left. Usually soft dentine is removed because it is heavily infected. Stained but hard dentine should be left over the pulp in a vital tooth. A high degree of moisture control is very important in deep cavities.

Caries over the pulp is removed with a sharp excavator or slowly rotating round bur. The final stage of cavity preparation is cleaning the cavity thoroughly with water. Then the cavity is dried with air, but dentists must remember that overdrying may cause damage of the pulp.

If the floor of the cavity after removal of carious dentine is close to the pulp, a calcium hydroxide lining is recommended. If a cavity is deep, a second layer of lining material may be required. Glass-ionomer cements are suitable for this purpose.

Cavity preparation

I. Find the equivalents:

Здоровый зуб, восстановление, фиссура, поражать, проксимальная поверхность, передние и задние зубы, пришеечная поверхность, свойства зубной ткани, реставрационные материалы, щечная поверхность, язычная поверхность, жевательная поверхность, различать, мягкий дентин, живой зуб, увлажнение, острый экскаватор, медленно вращающийся бор, сушить, пересушивание, повреждение.

II. What questions can you ask to suit the given answers:

1. _____? ...

— There are VI classes of caries.

2. _____ ?

~ It should start in the area of cavitation.

3. _____ ?

— Because it's heavily infected.

4. _____?

— It's important in deep cavities.

5. _____ ?

-- Overdrying may cause damage of the pulp.

III. Complete the sentences:

1. There are ... classes of caries.

2. Class I is characterized by ...

3. It's difficult for a dentist to gain access to ...

4. Usually a dentist does preparation for caries removal with ...

5. In deep cavities it's very important ...

IV. Translate into English:

Насколько я знаю, существует 6 типов кариеса. Кариес может поражать все поверхности зубов. Это зависит от заболеваний, свойств зубной ткани и реставрационных материалов.

Когда у меня был кариес, стоматологу было сложно получить доступ к кариозной полости. Обычно, если дентин инфицирован, он удаляется. В живом зубе стоматолог оставляет твердый дентин над пульпой. Очень важно не пересушить полость, так как это может повредить пульпу. Стоматолог пытается оставить больше зубной ткани и использовать меньше реставрационных материалов.

www.webmd.com.Dentures: Types (Partial and Complete)

Dental health and dentures

A denture is a removable replacement for missing [teeth](#) and surrounding tissues. Two types of dentures are available -- complete and partial dentures. Complete dentures are used when all the [teeth](#) are missing, while partial dentures are used when some natural [teeth](#) remain.

Complete Dentures

Complete dentures can be either "conventional" or "immediate." Made after the teeth have been removed and the gum tissue has begun to heal, a conventional denture is ready for placement in the [mouth](#) about eight to 12 weeks after the teeth have been removed.

Unlike conventional dentures, immediate dentures are made in advance and can be positioned as soon as the teeth are removed. As a result, the wearer does not have to be without teeth during the healing period. However, bones and gums shrink over time, especially during the healing period following tooth removal. Therefore a disadvantage of immediate dentures compared with conventional dentures is that they require more adjustments to fit properly during the healing process and generally should only be considered a temporary solution until conventional dentures can be made.

Partial Dentures

A removable partial denture or bridge usually consists of replacement teeth attached to a pink or gum-colored plastic base, which is sometimes connected by metal framework that holds the denture in place in the [mouth](#). Partial dentures are used when one or more natural teeth remain in the upper or lower jaw. A fixed bridge replaces one or more teeth by placing crowns on the teeth on either side of the space and attaching artificial teeth to them. This "bridge" is then cemented into place. Not only does a partial denture fill in the spaces created by missing teeth, it prevents other teeth

from changing position. A precision partial denture is removable and has internal attachments rather than clasps that attach to the adjacent crowns. This is a more natural-looking appliance.

1. Find the equivalents:

Отсутствующие зубы, окружающие ткани, полное съемное, частичное съемное, десневая ткань, процесс заживления, пластмассовая основа, металлический каркас, верхняя и нижняя челюсть, несъемный мост, искусственные зубы.

II. What questions can you ask to suit the given answers:

1. _____?

Dentures can be complete and partial..

2. _____?

Complete dentures are used when all the teeth are missing.

3. _____?

A conventional denture is ready for placement in the mouth about eight to

12 weeks after the teeth have been removed.

4. _____?

During the healing period bones and gums shrink over time.

5. _____?

A fixed bridge replaces one or more teeth by placing crowns on the teeth

III. Translate into English:

Существует 2 вида протезирования: полное съемное и частичное съемное. Если у пациента потеряны все зубы, то стоматолог предлагает ему полное съемное протезирование. Полный съемный протез устанавливается через 8-12 недель после удаления зубов. Но если у пациента остались один или более естественных зубов, стоматолог может предложить частичное протезирование. После удаления зуба, во время процесса заживления кости и десны «усаживаются». Возможно использовать временный протез сразу после удаления зуба.

V. Say about:

Complete denture
Partial denture

www.webmd.com.Dentures: Types (Partial and Complete)

Are There Alternatives to Dentures?

Yes, dental implants can be used to support cemented bridges, eliminating the need for a denture. The cost is usually greater, but the implants and bridges more closely resemble the feel of real teeth. Dental implants are becoming the alternative to dentures but not everyone is a candidate for implants. Consult your dentist for advice.

How Are Dentures Made?

The denture development process takes a few weeks and several appointments. Once your dentist or prosthodontist (a dentist who specializes in the restoration and replacement of teeth) determines what type of appliance is best for you, the general steps are to:

1. Make a series of impressions of your jaw and take measurements of how your jaws relate to one another and how much space is between them.
2. Create models, wax forms, and/or plastic patterns in the exact shape and position of the denture to be made. You will "try in" this model several times and the denture will be assessed for color, shape, and fit before the final denture is cast.
3. Cast a final denture
4. Adjustments will be made as necessary

What Do New Dentures Feel Like?

New dentures may feel a little odd or loose for a few weeks until the muscles of the cheeks and [tongue](#) learn to keep them in place and you get comfortable inserting and removing them. Also, it is not unusual for minor irritation or soreness to occur and for [saliva](#) flow to increase when you first start wearing dentures, but these problems will diminish as the [mouth](#) adjusts.

Will Dentures Make Me Look Different?

Dentures are made to closely resemble your natural teeth so there should be only a small noticeable change in appearance. In fact, dentures may even improve your smile and fill out your facial appearance.

Will Eating With New Dentures Be Difficult?

Eating with new dentures will take a little practice and may be uncomfortable for some wearers for a few weeks. To get used to the new denture, start with soft foods cut into small pieces. Chew slowly using both sides of your mouth. As you get used to new dentures, add other foods until you return to a normal diet. Be cautious with hot or hard foods and sharp-edged bones or shells. And, avoid foods that are extremely sticky or hard. You should also avoid chewing gum while you wear the denture.

Will Dentures Change How I Speak?

After getting dentures, you may have difficulty pronouncing certain words. If so, practice by saying the difficult words out loud. With practice and with time you will become accustomed to speaking properly with dentures.

If dentures "click" while you're talking, contact your dentist. Dentures may occasionally slip when you laugh, cough, or smile. Reposition the dentures by gently biting down and swallowing. If any speaking problem persists, consult your dentist or prosthodontist.

Are Dentures Worn 24 Hours a Day?

Your dentist or prosthodontist will instruct you as to how long to wear dentures and when to remove them. During the first several days after receiving your denture, you may be asked to wear it all the time, including while you sleep. Although this may be temporarily uncomfortable, it is the quickest way to identify the areas on the denture that may need adjustment. Once adjustments are made, you should remove dentures before going to bed. This allows gum tissues to rest and allows normal stimulation and cleansing by the tongue and saliva. The denture can be put back in the mouth in the morning.

www.docshop.com. **Dentures** and implant

Dentures

Dentures are removable dental appliances that replace missing teeth. Unlike dental implants and dental bridges, which are more or less permanently affixed to the bone, dentures are prosthetic teeth attached to a supporting structure. Dentures can be removed at night, for cleaning, or whenever desired. The most affordable dentures are those made with traditional plastic prosthetic teeth, but even more expensive porcelain cosmetic dentures usually cost less than implants.

Alternatives to Dentures

Patients that want a more stable and comfortable denture alternative may be interested in talking to their dentists about dental implants and dental bridges. Although both of these treatments tend to be more expensive than dentures, they generally offer a more precise fit and better chewing ability than dentures. Patients can also have a tooth-colored ceramic or porcelain bridge or implant restoration placed for a more natural looking appearance.

- **Dental Implants:** Implants are similar to dentures, in that they are prosthetic restorations used to replace natural teeth. However, dental implants are actually attached to the jaw. Six months before the implant restoration (false tooth) can be placed in the patient's mouth, a metal anchor is permanently implanted into the jawbone. After the jawbone has grown around the anchor (a period known as osseointegration), the implant restoration can be attached to it.
- **Dental Bridges:** A dental bridge refers to a single false tooth or span of up to three prosthetic teeth that are attached to adjacent natural teeth with metal and plastic connectors or dental crowns. Bridges help to preserve some of the mouth's structural integrity by leaving as many natural teeth in place as possible. However, patients that are missing the majority of their teeth are typically not good candidates for dental bridges. Good candidates for dental bridges must have healthy gums and some healthy natural teeth that can act as anchors.

Types of Dentures

Dentists can fit you with full or partial dentures, depending on whether you are missing all of your teeth or just a few of your teeth. Learn more about the different types of dentures that are currently on the market.

- **Full Dentures:** Full dentures are for those patients who have lost all of their natural teeth in the upper or lower jaw, or both. Full dentures restore confidence in one's appearance, and help the wearer to speak and eat normally.
- **Partial Dentures:** For those who have lost some teeth, but don't want to get dental implants or bridges, partial dentures are an affordable option. Removable partial dentures are held in place by natural teeth, gums, and a connective structure made of plastic and metal.
- **Conventional Dentures:** Conventional dentures are those that are placed once the bones and gums have healed after the removal of natural teeth. While there is a waiting period that can be frustrating, the dentures normally fit properly the first time. Conventional dentures are also the most affordable dentures option.
- **Immediate Dentures:** Immediate dentures, as the name implies, are placed as soon as the natural teeth are removed. With immediate dentures, the patient need not face the world without teeth, can eat normally much sooner than with conventional dentures, and does not have the speech problems associated with the normal denture process. However, since healing of the gums and jaw will change the fit of immediate dentures, the patient will typically need a new set in about six months.
- **Natural Looking Cosmetic Dentures:** Instead of traditional plastic prosthetic teeth, natural looking cosmetic dentures are made with modern ceramic porcelain teeth. The dentures are usually individually crafted, and look more like real teeth than the plastic variety. Cosmetic dentures also have a more natural looking support structure, and though they may cost a bit more than conventional dentures, they are truly difficult to distinguish from real teeth.

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- www.docshop.com.Dentures and implant

- **The Treatment Process**

- The implant-supported dentures treatment process is tailored to the restorative needs of the individual patient. Some will need to undergo dental therapy and healing before the implants can be placed, extending the amount of time before the final dentures prosthetic can be placed.

Preparing for Dental Implants

The following are some common treatments that are performed before the placement of dental implants.

1. **Tooth extraction and restoration:** If tooth decay or gum disease is so severe that a tooth can't be saved, it will need to be extracted. Your dentist will examine the remaining teeth in your mouth and determine if they should be removed or restored with tooth-colored fillings, inlays, onlays, or dental crowns. After the teeth have been extracted, the gums need at least two to three months to heal before an implant can be placed or an impression taken.
2. **Gum grafts:** To ensure the security and longevity of dental implants, there must be adequate gum tissue above and around them. If patients have lost healthy gum tissue due to gum disease or tooth loss, a gum graft may be required before implant placement. The gums require a healing period of at least a month or two after gum grafting surgery.
3. **Bone grafts:** If the jawbone is not thick or solid enough, bone-grafting surgery is performed to support the implant and help withstand the forces caused by biting and chewing. The healing period from a bone graft can take a month or two. Once the gums and jawbone are healthy enough to accommodate dental implants, they can be placed.
1. **Implant placement:** The dental implants, made of titanium, are surgically placed in the jawbone. In effect, a dental implant replaces the tooth's natural root. Each implant is inserted into the gums and jawbone through a small incision. One of the advantages of implant-supported dentures is that fewer implants can be placed than teeth. For complete upper dentures, between six and eight implants are placed. For complete lower dentures, four to five implants are placed. After the implants have been placed, the gums and bone will take three to six months to grown in around the implant, a process called osseointegration.
2. **Hardware attachment:** Once the gums have healed, the snap, bar, or abutment is attached to the titanium implant. This is accomplished by reopening the gum tissue to expose the dental implant. The hardware is then attached to the dental implant, and the gums are allowed two weeks to heal around the abutment.
3. **Tooth restoration:** The tooth restoration phase is the most exciting part of the implant-supported dentures treatment process. At this time, the custom-dentures are secured to the hardware that is attached to the implant.

The Dentures Fabrication Process

While you are undergoing the dental implant placement process, your dentist's lab will begin to fabricate your dentures. The dentures fabrication process involves:

1. **Impressions:** When the gums have sufficiently healed and are determined to be in healthy condition, your dentist can take impressions of your teeth using digital technology or dental putty.
2. **Creation of model prosthetics:** Before your final dentures are crafted, your dentist may have a wax model made so he or she can check the fit and appearance of the dentures. This allows for some modifications to the design.
3. **Fabrication of final dentures:** When you and your dentist are satisfied with the fit and look of the dentures, a dental lab technician or prosthodontist will create the prosthetic out of durable and natural looking dental materials.
4. **Adjustments:** After your final dentures are made and attached to the dental implants, the fit or look of the dentures may be adjusted.

After Treatment

After implant-supported dentures are in place, patients should properly care for their teeth and gums. The dentures, gums, and tongue should be brushed twice a day. Patients should also floss daily to remove debris between the teeth; though false teeth won't become damaged by decay, plaque build-up can still cause gum disease and bad breath. Patients with dentures should also schedule dental visits every six months so their dentists can check the fit of the dentures and look for signs of dental problems.

DENTAL MATERIALS

Among the materials most commonly used in modern restorative dentistry are the following:

- Amalgams;
- Composites (composite resins):
- Glass-ionomer cements:
- Materials for filling of root canals;
- Linings for direct pulp capping;
- Cast gold and other alloys;
- Porcelain.

Dental amalgam

Amalgams are alloys of metals with mercury.

Amalgam was introduced in New York in 1833. The first users of amalgams were not well qualified as dentists. Their methods were so poor that they gave the amalgams a bad name. Members of the American Dental Association were demanded to sign a declaration that they would never use amalgams. In the annals of American dental history, the period of 1830s-1890s is known as the period of «Amalgam war».

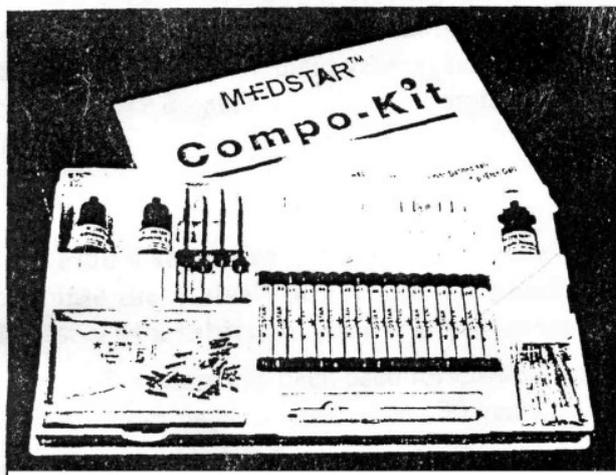
Amalgams usually contain silver, copper and tin in different proportions. They may also contain small quantities of other metals, such as zinc and palladium. In modern amalgams copper content is increased (up to 12-30% by weight) as it helps to achieve better marginal adaptation.

Amalgam fillings retain in the cavity by mechanical means, not by adhesion. This type of fillings is good for large cavities in posterior teeth only, as amalgams are not tooth-colored. Patients are often afraid to have amalgam fillings because of the mercury they release. But all the latest investigations made in different countries show that amalgams are safe materials, even for pregnant women.

Composites (composite resins)

Composites are esthetically pleasing materials because they match the tooth color. A shade guide is used to help in color selection.

Composites bond directly to the tooth structure



All composites contain a resin and a filler (60-80% by weight). The main characteristics of any composite material depend on the filler: its type, concentration and particle size. Among the conventional fillers are quartz, silica particles and some types of glass. Particle size of fillers is in the range of 1 - 50 microns. The smaller the particles, the better the quality of the material. Chemically polymerized composites include two components (two pastes, as a rule). One of them contains an activator and the other one contains an initiator. Light-cured composites are usually represented by a single paste.

The most modern micro-filled composites contain silica particles with the average diameter of 0.04 microns. Fillings made of these materials are the easiest to smooth and polish. Polymerization of light-cured materials requires the use of a light source. The material must be used in small portions (increments) and each layer must be light-cured separately. Light-cured materials are very sensitive to sunlight and operative light in the dental office, so they must be covered properly.

Glass-ionomer cements

These materials are water-based. They adhere to tooth structure chemically (better to enamel, than to dentine). Almost all glass-ionomer cements are characterized by high fluorine content. This is a very favourable feature of these materials. Glass-ionomer cements are usually used in combination with conditioning agents (10% polyacrylic acid). It is applied for 10 seconds and is aimed for removing the smear layer. Glass-ionomer cements are good for restoration of non-load-bearing surfaces. The latest generation of glass-ionomer cements includes materials which are light-cured, i.e. they represent a combination of traditional glass-ionomer cements with composites.

Porcelain

Porcelain has been used for crowns for more than 100 years. It is considered a reliable dental material because it maintains its color and gloss for a long period of time and is compatible with soft tissues. Unfortunately, it is very brittle.

Porcelain is used not only for crowns, but also for veneers when anterior teeth are discolored or their shape needs correction. In this case the entire labial surface is covered with the veneer while the other surfaces are left unchanged. Porcelain veneers have advantages over composite veneers as their color and surface gloss are more durable. However, laboratory costs for veneers are often as high as costs of crowns.

Dental materials.

I. Find the equivalents:

Композитные материалы, фарфор, сплав, ртуть, кремний, серебро, олово, прилипание, оттеночная шкала, пластмасса, наполнитель, светоотверждаемые композиты, слюй, материалы на водной основе, высокое содержание фтора, поверхности не несущие нагрузки, блеск, совместимый, хрупкий, виниры.

II. What questions can you ask to suit the given answers:

1.?

~ Amalgams are alloys of metals with mercury.

2. ?

— Amalgams fillings retain in the cavity by mechanical means.

3.?

— Composites match the tooth colour.

4. ?

— All composites contain a resin & a filler.

5.?

— They are sensitive to sunlight & operative light in the dental office.

6. _____ ?

— Porcelain is used for crowns & veneers.

III. Complete the sentences:

1. The period of 1830s -1890s -1890s is the period of....
2. Amalgam fillings are used for ...
3. A dentist uses to choose proper colour.
4. adhere better to enamel than to dentine.
5. is compatible with soft tissues.
6. When anterior teeth are discolored, it's better to use ...

IV. Translate into English:

Есть различные реставрационные материалы, которые используются в стоматологии. Долгое время стоматологи использовали амальгаму для пломбирования. Но она содержит ртуть и многие люди боялись таких пломб. Теперь амальгама не используется.

Стоматологи предпочитают использовать композитные материалы, потому что они подходят к цвету зуба. Свето-отверждаемые композиты лучше использовать на передних зубах.

Фарфор хорош для коронок, потому что он долго сохраняет свой блеск и цвет. Но вам не следует кусать твердые предметы, так как фарфор очень хрупкий. Цена фарфоровых коронок и виниров высока.

V. Say about:

- types of restorative materials;
- dental amalgam
- composites & their advantages;
- light-cured materials;

- porcelain: advantages & disadvantages

