

# **JAMES M. JACK DDS**

## **Notice of Privacy Practices**

**THIS NOTICE DESCRIBES HOW MEDICAL INFORMATION ABOUT YOU MAY BE USED AND DISCLOSED AND HOW YOU CAN GET ACCESS TO THIS INFORMATION. PLEASE REVIEW IT CAREFULLY.**

### **I. Dental Practice Covered by this Notice**

This Notice describes the privacy practices of JAMES M. JACK ("Dental Practice"). "We" and "our" means the Dental Practice. "You" and "your" means our patient.

### **II. How to Contact Us/Our Privacy Official**

If you have any questions or would like further information about this Notice, you can contact [JAMES M. JACK'S Privacy Official at:

8769 AUBURN FOLSOM RD

GRANITE BAY, CA 95746

916-791-4719

916-791-3091

INFO@JACKDENTALTEAM.COM

### **III. Our Promise to You and Our Legal Obligations**

The privacy of your health information is important to us. We understand that your health information is personal and we are committed to protecting it. This Notice describes how we may use and disclose your protected health information to carry out treatment, payment or health care operations and for other purposes that are permitted or required by law. It also describes your rights to access and control your protected health information. Protected health information is information about you, including demographic information, that may identify you and that relates to your past, present or future physical or mental health or condition and related health care services.

We are required by law to:

- Maintain the privacy of your protected health information;
- Give you this Notice of our legal duties and privacy practices with respect to that information; and
- Abide by the terms of our Notice that is currently in effect.

### **IV. Last Revision Date**

This Notice was last revised on August 10, 2015

### **V. How We May Use or Disclose Your Health Information**

The following examples describe different ways we may use or disclose your health information. These examples are not meant to be exhaustive. We are permitted by law to use and disclose your health information for the following purposes:

#### **A. Common Uses and Disclosures**

**1. Treatment.** We may use your health information to provide you with dental treatment or services, such as cleaning or examining your teeth or performing dental procedures. We may disclose health information about you to dental specialists, physicians, or other health care professionals involved in your care.

**2. Payment.** We may use and disclose your health information to obtain payment from health plans and insurers for the care that we provide to you.

**3. Health Care Operations.** We may use and disclose health information about you in connection with health care operations necessary to run our practice, including review of our treatment and services, training, evaluating the performance of our staff and health care professionals, quality assurance, financial or billing audits, legal matters, and business planning and development.

**4. Appointment Reminders.** We may use or disclose your health information when contacting you to remind you of a dental appointment. We may contact you by using a postcard, letter, phone call, voice message, text or email.

**5. Treatment Alternatives and Health-Related Benefits and Services.** We may use and disclose your health information to tell you about treatment options or alternatives or health-related benefits and services that may be of interest to you.

**6. Disclosure to Family Members and Friends.** We may disclose your health information to a family member or friend who is involved with your care or payment for your care if you do not object or, if you are not present, we believe it is in your best interest to do so.

**7. Disclosure to Business Associates.** We may disclose your protected health information to our third-party service providers (called, "business associates") that perform functions on our behalf or provide us with services if the information is necessary for such functions or services. For example, we may use a business associate to assist us in maintaining our practice management software. All of our business associates are obligated, under contract with us, to protect the privacy of your information and are not allowed to use or disclose any information other than as specified in our contract.

#### **B. Less Common Uses and Disclosures**

**1. Disclosures Required by Law.** We may use or disclose patient health information to the extent we are required by law to do so. For example, we are required to disclose patient health information to the U.S. Department of Health and Human Services so that it can investigate complaints or determine our compliance with HIPAA.

**2. Public Health Activities.** We may disclose patient health information for public health activities and purposes, which include: preventing or controlling disease, injury or disability; reporting births or deaths; reporting child abuse or neglect; reporting adverse reactions to medications or foods; reporting product defects; enabling product recalls;

and notifying a person who may have been exposed to a disease or may be at risk for contracting or spreading a disease or condition.

**3. Victims of Abuse, Neglect or Domestic Violence.** We may disclose health information to the appropriate government authority about a patient whom we believe is a victim of abuse, neglect or domestic violence.

**4. Health Oversight Activities.** We may disclose patient health information to a health oversight agency for activities necessary for the government to provide appropriate oversight of the health care system, certain government benefit programs, and compliance with certain civil rights laws.

**5. Lawsuits and Legal Actions.** We may disclose patient health information in response to (i) a court or administrative order or (ii) a subpoena, discovery request, or other lawful process that is not ordered by a court if efforts have been made to notify the patient or to obtain an order protecting the information requested.

**6. Law Enforcement Purposes.** We may disclose your health information to a law enforcement official for a law enforcement purposes, such as to identify or locate a suspect, material witness or missing person or to alert law enforcement of a crime.

**7. Coroners, Medical Examiners and Funeral Directors.** We may disclose your health information to a coroner, medical examiner or funeral director to allow them to carry out their duties.

**8. Organ, Eye and Tissue Donation.** We may use or disclose your health information to organ procurement organizations or others that obtain, bank or transplant cadaveric organs, eyes or tissue for donation and transplant.

**9. Research Purposes.** We may use or disclose your information for research purposes pursuant to patient authorization waiver approval by an Institutional Review Board or Privacy Board.

**10. Serious Threat to Health or Safety.** We may use or disclose your health information if we believe it is necessary to do so to prevent or lessen a serious threat to anyone's health or safety.

**11. Specialized Government Functions.** We may disclose your health information to the military (domestic or foreign) about its members or veterans, for national security and protective services for the President or other heads of state, to the government for security clearance reviews, and to a jail or prison about its inmates.

**12. Workers' Compensation.** We may disclose your health information to comply with workers' compensation laws or similar programs that provide benefits for work-related injuries or illness.

## **VI. Your Written Authorization for Any Other Use or Disclosure of Your Health Information**

Uses and disclosures of your protected health information that involve the release of psychotherapy notes (if any), marketing, sale of your protected health information, or other uses or disclosures not described in this notice will be made only with your written authorization, unless otherwise permitted or required by law. You may revoke this

authorization at any time, in writing, except to the extent that this office has taken an action in reliance on the use of disclosure indicated in the authorization. If a use or disclosure of protected health information described above in this notice is prohibited or materially limited by other laws that apply to use, we intend to meet the requirements of the more stringent law.

## **VII. Your Rights with Respect to Your Health Information**

You have the following rights with respect to certain health information that we have about you (information in a Designated Record Set as defined by HIPAA). To exercise any of these rights, you must submit a written request to our Privacy Official listed on the first page of this Notice.

### **A. Right to Access and Review**

You may request to access and review a copy of your health information. We may deny your request under certain circumstances. You will receive written notice of a denial and can appeal it. We will provide a copy of your health information in a format you request if it is readily producible. If not readily producible, we will provide it in a hard copy format or other format that is mutually agreeable. If your health information is included in an Electronic Health Record, you have the right to obtain a copy of it in an electronic format and to direct us to send it to the person or entity you designate in an electronic format. We may charge a reasonable fee to cover our cost to provide you with copies of your health information.

### **B. Right to Amend**

If you believe that your health information is incorrect or incomplete, you may request that we amend it. We may deny your request under certain circumstances. You will receive written notice of a denial and can file a statement of disagreement that will be included with your health information that you believe is incorrect or incomplete.

### **C. Right to Restrict Use and Disclosure**

You may request that we restrict uses of your health information to carry out treatment, payment, or health care operations or to your family member or friend involved in your care or the payment for your care. We may not (and are not required to) agree to your requested restrictions, with one exception: If you pay out of your pocket in full for a service you receive from us and you request that we not submit the claim for this service to your health insurer or health plan for reimbursement, we must honor that request.

### **D. Right to Confidential Communications, Alternative Means and Locations**

You may request to receive communications of health information by alternative means or at an alternative location. We will accommodate a request if it is reasonable and you indicate that communication by regular means could endanger you. When you submit a written request to the Privacy Official listed on the first page of this Notice, you need to provide an alternative method of contact or alternative address and indicate how payment for services will be handled.

### **E. Right to an Accounting of Disclosures**

You have a right to receive an accounting of disclosures of your health information for the six (6) years prior to the date that the accounting is requested except for disclosures to carry out treatment, payment, health care operations (and certain other exceptions as provided by HIPAA). The first accounting we provide in any 12-month period will be without charge to you. We may charge a reasonable fee to cover the cost for each subsequent request for an accounting within the same 12-month period. We will notify you in advance of this fee and you may choose to modify or withdraw your request at that time.

#### **F. Right to a Paper Copy of this Notice**

You have the right to a paper copy of this Notice. You may ask us to give you a paper copy of the Notice at any time (even if you have agreed to receive the Notice electronically). To obtain a paper copy, ask the Privacy Official.

#### **G. Right to Receive Notification of a Security Breach**

We are required by law to notify you if the privacy or security of your health information has been breached. The notification will occur by first class mail within sixty (60) days of the event. A breach occurs when there has been an unauthorized use or disclosure under HIPAA that compromises the privacy or security of your health information.

The breach notification will contain the following information: (1) a brief description of what happened, including the date of the breach and the date of the discovery of the breach; (2) the steps you should take to protect yourself from potential harm resulting from the breach; and (3) a brief description of what we are doing to investigate the breach, mitigate losses, and to protect against further breaches.

#### **VIII. Special Protections for HIV, Alcohol and Substance Abuse, Mental Health and Genetic Information**

Certain federal and state laws may require special privacy protections that restrict the use and disclosure of certain health information, including HIV-related information, alcohol and substance abuse information, mental health information, and genetic information. For example, a health plan is not permitted to use or disclose genetic information for underwriting purposes. Some parts of this HIPAA Notice of Privacy Practices may not apply to these types of information. If your treatment involves this information, you may contact our office for more information about these protections.

#### **IX. Our Right to Change Our Privacy Practices and This Notice**

We reserve the right to change the terms of this Notice at any time. Any change will apply to the health information we have about you or create or receive in the future. We will promptly revise the Notice when there is a material change to the uses or disclosures, individual's rights, our legal duties, or other privacy practices discussed in this Notice. We will post the revised Notice on our website (if applicable) and in our office and will provide a copy of it to you on request. The effective date of this Notice is 8-10-2015

#### **X. How to Make Privacy Complaints**

If you have any complaints about your privacy rights or how your health information has been used or disclosed, you may file a complaint with us by contacting our Privacy Official listed on the first page of this Notice.

You may also file a written complaint with the Secretary of the U.S. Department of Health and Human Services, Office for Civil Rights. We will not retaliate against you in any way if you choose to file a complaint.

# *The Facts About Fillings*



**DENTAL BOARD OF CALIFORNIA**

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# *Dental Materials Fact Sheet*

## **What About the Safety of Filling Materials?**

Patient health and the safety of dental treatments are the primary goals of California's dental professionals and the Dental Board of California. The purpose of this fact sheet is to provide you with information concerning the risks and benefits of all the dental materials used in the restoration (filling) of teeth.

The Dental Board of California is required by law\* to make this dental materials fact sheet available to every licensed dentist in the state of California. Your dentist, in turn, must provide this fact sheet to every new patient and all patients of record only once before beginning any dental filling procedure.

As the patient or parent/guardian, you are strongly encouraged to discuss with your dentist the facts presented concerning the filling materials being considered for your particular treatment.

*\* Business and Professions Code 1648.10-1648.20*

## **Allergic Reactions to Dental Materials**

Components in dental fillings may have side effects or cause allergic reactions, just like other materials we may come in contact with in our daily lives. The risks of such reactions are very low for all types of filling materials. Such reactions can be caused by specific components of the filling materials such as mercury, nickel, chromium, and/or beryllium alloys. Usually, an allergy will reveal itself as a skin rash and is easily reversed when the individual is not in contact with the material.

There are no documented cases of allergic reactions to composite resin, glass ionomer, resin ionomer, or porcelain. However, there have been rare allergic responses reported with dental amalgam, porcelain fused to metal, gold alloys, and nickel or cobalt-chrome alloys.

If you suffer from allergies, discuss these potential problems with your dentist before a filling material is chosen.

# Toxicity of Dental Materials

## *Dental Amalgam*

Mercury in its elemental form is on the State of California's Proposition 65 list of chemicals known to the state to cause reproductive toxicity. Mercury may harm the developing brain of a child or fetus.

Dental amalgam is created by mixing elemental mercury (43-54%) and an alloy powder (46-57%) composed mainly of silver, tin, and copper. This has caused discussion about the risks of mercury in dental amalgam. Such mercury is emitted in minute amounts as vapor. Some concerns have been raised regarding possible toxicity. Scientific research continues on the safety of dental amalgam. According to the Centers for Disease Control and Prevention, there is scant evidence that the health of the vast majority of people with amalgam is compromised.

The Food and Drug Administration (FDA) and other public health organizations have investigated the safety of amalgam used in dental fillings. The conclusion: no valid scientific evidence has shown that amalgams cause harm to patients with dental restorations, except in rare cases of allergy. The World Health Organization reached a similar conclusion stating, "Amalgam restorations are safe and cost effective."

A diversity of opinions exists regarding the safety of dental amalgams. Questions have been raised about its safety in pregnant women, children, and diabetics. However, scientific evidence and research literature in peer-reviewed scientific journals suggest that otherwise healthy women, children, and diabetics are not at an increased risk from dental amalgams in their mouths. The FDA places no restrictions on the use of dental amalgam.

## *Composite Resin*

Some Composite Resins include Crystalline Silica, which is on the State of California's Proposition 65 list of chemicals known to the state to cause cancer.

**It is always a good idea to discuss any dental treatment thoroughly with your dentist.**

## DENTAL AMALGAM FILLINGS

Dental amalgam is a self-hardening mixture of silver-tin-copper alloy powder and liquid mercury and is sometimes referred to as silver fillings because of its color. It is often used as a filling material and replacement for broken teeth.

### *Advantages*

- ♥ Durable; long lasting
- ♥ Wears well; holds up well to the forces of biting
- ♥ Relatively inexpensive
- ♥ Generally completed in one visit
- ♥ Self-sealing; minimal-to-no shrinkage and resists leakage
- ♥ Resistance to further decay is high, but can be difficult to find in early stages
- ♥ Frequency of repair and replacement is low

### *Disadvantages*

- Refer to “What About the Safety of Filling Materials”
- Gray colored, not tooth colored
- May darken as it corrodes; may stain teeth over time
- Requires removal of some healthy tooth
- In larger amalgam fillings, the remaining tooth may weaken and fracture
- Because metal can conduct hot and cold temperatures, there may be a temporary sensitivity to hot and cold.
- Contact with other metals may cause occasional, minute electrical flow

**The durability of any dental restoration is influenced not only by the material it is made from but also by the dentist's technique when placing the restoration. Other factors include the supporting materials used in the procedure and the patient's cooperation during the procedure. The length of time a restoration will last is dependent upon your dental hygiene, home care, and diet and chewing habits.**

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## COMPOSITE RESIN FILLINGS

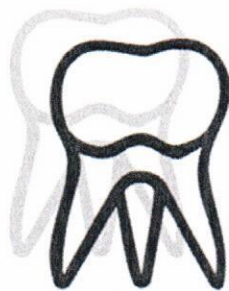
Composite fillings are a mixture of powdered glass and plastic resin, sometimes referred to as white, plastic, or tooth-colored fillings. It is used for fillings, inlays, veneers, partial and complete crowns, or to repair portions of broken teeth.

### *Advantages*

- ♥ Strong and durable
- ♥ Tooth colored
- ♥ Single visit for fillings
- ♥ Resists breaking
- ♥ Maximum amount of tooth preserved
- ♥ Small risk of leakage if bonded only to enamel
- ♥ Does not corrode
- ♥ Generally holds up well to the forces of biting depending on product used
- ♥ Resistance to further decay is moderate and easy to find
- ♥ Frequency of repair or replacement is low to moderate

### *Disadvantages*

- Refer to “*What About the Safety of Filling Materials*”
- Moderate occurrence of tooth sensitivity; sensitive to dentist’s method of application
- Costs more than dental amalgam
- Material shrinks when hardened and could lead to further decay and/or temperature sensitivity
- Requires more than one visit for inlays, veneers, and crowns
- May wear faster than dental enamel
- May leak over time when bonded beneath the layer of enamel



### **GLASS IONOMER CEMENT**

Glass ionomer cement is a self-hardening mixture of glass and organic acid. It is tooth-colored and varies in translucency. Glass ionomer is usually used for small fillings, cementing metal and porcelain/metal crowns, liners, and temporary restorations.

#### ***Advantages***

- ♥ Reasonably good esthetics
- ♥ May provide some help against decay because it releases fluoride
- ♥ Minimal amount of tooth needs to be removed and it bonds well to both the enamel and the dentin beneath the enamel
- ♥ Material has low incidence of producing tooth sensitivity
- ♥ Usually completed in one dental visit

#### ***Disadvantages***

- Cost is very similar to composite resin (which costs more than amalgam)
- Limited use because it is not recommended for biting surfaces in permanent teeth
- As it ages, this material may become rough and could increase the accumulation of plaque and chance of periodontal disease
- Does not wear well; tends to crack over time and can be dislodged

### **RESIN-IONOMER CEMENT**

Resin ionomer cement is a mixture of glass and resin polymer and organic acid that hardens with exposure to a blue light used in the dental office. It is tooth colored but more translucent than glass ionomer cement. It is most often used for small fillings, cementing metal and porcelain metal crowns and liners.

#### ***Advantages***

- ♥ Very good esthetics
- ♥ May provide some help against decay because it releases fluoride
- ♥ Minimal amount of tooth needs to be removed and it bonds well to both the enamel and the dentin beneath the enamel
- ♥ Good for non-biting surfaces
- ♥ May be used for short-term primary teeth restorations
- ♥ May hold up better than glass ionomer but not as well as composite
- ♥ Good resistance to leakage
- ♥ Material has low incidence of producing tooth sensitivity
- ♥ Usually completed in one dental visit

#### ***Disadvantages***

- Cost is very similar to composite resin (which costs more than amalgam)
- Limited use because it is not recommended to restore the biting surfaces of adults
- Wears faster than composite and amalgam

## **PORCELAIN (CERAMIC)**

Porcelain is a glass-like material formed into fillings or crowns using models of the prepared teeth. The material is tooth-colored and is used in inlays, veneers, crowns and fixed bridges.

### ***Advantages***

- ♥ Very little tooth needs to be removed for use as a veneer; more tooth needs to be removed for a crown because its strength is related to its bulk (size)
- ♥ Good resistance to further decay if the restoration fits well
- ♥ Is resistant to surface wear but can cause some wear on opposing teeth
- ♥ Resists leakage because it can be shaped for a very accurate fit
- ♥ The material does not cause tooth sensitivity

### ***Disadvantages***

- Material is brittle and can break under biting forces
- May not be recommended for molar teeth
- Higher cost because it requires at least two office visits and laboratory services

## **NICKEL OR COBALT-CHROME ALLOYS**

Nickel or cobalt-chrome alloys are mixtures of nickel and chromium. They are a dark silver metal color and are used for crowns and fixed bridges and most partial denture frameworks.

### ***Advantages***

- ♥ Good resistance to further decay if the restoration fits well
- ♥ Excellent durability; does not fracture under stress
- ♥ Does not corrode in the mouth
- ♥ Minimal amount of tooth needs to be removed
- ♥ Resists leakage because it can be shaped for a very accurate fit

### ***Disadvantages***

- Is not tooth colored; alloy is a dark silver metal color
- Conducts heat and cold; may irritate sensitive teeth
- Can be abrasive to opposing teeth
- High cost; requires at least two office visits and laboratory services
- Slightly higher wear to opposing teeth



### PORCELAIN FUSED TO METAL

This type of porcelain is a glass-like material that is “enameled” on top of metal shells. It is tooth-colored and is used for crowns and fixed bridges

#### *Advantages*

- ♥ Good resistance to further decay if the restoration fits well
- ♥ Very durable, due to metal substructure
- ♥ The material does not cause tooth sensitivity
- ♥ Resists leakage because it can be shaped for a very accurate fit

#### *Disadvantages*

- More tooth must be removed (than for porcelain) for the metal substructure
- Higher cost because it requires at least two office visits and laboratory services

### GOLD ALLOY

Gold alloy is a gold-colored mixture of gold, copper, and other metals and is used mainly for crowns and fixed bridges and some partial denture frameworks

#### *Advantages*

- ♥ Good resistance to further decay if the restoration fits well
- ♥ Excellent durability; does not fracture under stress
- ♥ Does not corrode in the mouth
- ♥ Minimal amount of tooth needs to be removed
- ♥ Wears well; does not cause excessive wear to opposing teeth
- ♥ Resists leakage because it can be shaped for a very accurate fit

#### *Disadvantages*

- Is not tooth colored; alloy is yellow
- Conducts heat and cold; may irritate sensitive teeth
- High cost; requires at least two office visits and laboratory services

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5/04

# DENTAL MATERIALS FACT SHEET

TYPES OF DIRECT RESTORATIVE DENTAL MATERIALS				
COMPARATIVE FACTORS	AMALGAM	COMPOSITE RESIN (DIRECT AND INDIRECT RESTORATIONS)	GLASS IONOMER CEMENT	RESIN-IONOMER CEMENT
General Description	Self-hardening mixture in varying percentages of a liquid mercury and silver-tin alloy powder.	Mixture of powdered glass and plastic resin; self-hardening or hardened by exposure to blue light.	Self-hardening mixture of glass and organic acid.	Mixture of glass and resin polymer and organic acid; self hardening by exposure to blue light.
Principal Uses	Fillings; sometimes for replacing portions of broken teeth.	Fillings, inlays, veneers, partial and complete crowns; sometimes for replacing portions of broken teeth.	Small fillings; cementing metal & porcelain/metal crowns, liners, temporary restorations.	Small fillings; cementing metal & porcelain/metal crowns, and liners.
Resistance to Further Decay	High; self-sealing characteristic helps resist recurrent decay; but recurrent decay around amalgam is difficult to detect in its early stages.	Moderate; recurrent decay is easily detected in early stages.	Low-Moderate; some resistance to decay may be imparted through fluoride release.	Low-Moderate; some resistance to decay may be imparted through fluoride release.
Estimated Durability (permanent teeth)	Durable	Strong, durable.	Non-stress bearing crown cement.	Non-stress bearing crown cement.
Relative Amount of Tooth Preserved	Fair; Requires removal of healthy tooth to be mechanically retained; No adhesive bond of amalgam to the tooth.	Excellent; bonds adhesively to healthy enamel and dentin.	Excellent; bonds adhesively to healthy enamel and dentin.	Excellent; bonds adhesively to healthy enamel and dentin.
Resistance to Surface Wear	Low Similar to dental enamel; brittle metal.	May wear slightly faster than dental enamel.	Poor in stress-bearing applications. Fair in non-stress bearing applications.	Poor in stress-bearing applications; Good in non-stress bearing applications.
Resistance to Fracture	Amalgam may fracture under stress; tooth around filling may fracture before the amalgam does.	Good resistance to fracture.	Brittle; low resistance to fracture but not recommended for stress-bearing restorations.	Tougher than glass ionomer; recommended for stress-bearing restorations in adults.
Resistance to Leakage	Good; self-sealing by surface corrosion; margins may chip over time.	Good if bonded to enamel; may show leakage over time when bonded to dentin; Does not corrode.	Moderate; tends to crack over time.	Good; adhesively bonds to resin, enamel, dentine/ post-insertion expansion may help seal the margins.
Resistance to Occlusal Stress	High; but lack of adhesion may weaken the remaining tooth.	Good to Excellent depending upon product used.	Poor; not recommended for stress-bearing restorations.	Moderate; not recommended to restore biting surfaces of adults; suitable for short-term primary teeth restorations.
Toxicity	Generally safe; occasional allergic reactions to metal components. However amalgams contain mercury. Mercury in its elemental form is toxic and as such is listed on prop 65.	Concerns about trace chemical release are not supported by research studies. Safe; no known toxicity documented. Contains some compounds listed on prop 65.	No known incompatibilities. Safe; no known toxicity documented.	No known incompatibilities. Safe; no known toxicity documented.
Allergic or Adverse Reactions	Rare; recommend that dentist evaluate patient to rule out metal allergies.	No documentation for allergic reactions was found.	No documentation for allergic reactions was found. Progressive roughening of the surface may predispose to plaque accumulation and periodontal disease.	No known documented allergic reactions; Surface may roughen slightly over time; predisposing to plaque accumulation and periodontal disease if the material contacts the gingival tissue.
Susceptibility to Post-Operative Sensitivity	Minimal; High thermal conductivity may promote temporary sensitivity to hot and cold; Contact with other metals may cause occasional and transient galvanic response.	Moderate; Material is sensitive to dentist's technique; Material shrinks slightly when hardened, and a poor seal may lead to bacterial leakage, recurrent decay and tooth hypersensitivity.	Low; material seals well and does not irritate pulp.	Low; material seals well and does not irritate pulp.
Esthetics (Appearance)	Very poor. Not tooth colored; initially silver-gray, gets darker, becoming black as it corrodes. May stain teeth dark brown or black over time.	Excellent; often indistinguishable from natural tooth.	Good; tooth colored, varies in translucency.	Very good; more translucency than glass ionomer.
Frequency of Repair or Replacement	Low; replacement is usually due to fracture of the filling or the surrounding tooth.	Low-Moderate; durable material hardens rapidly; some composite materials show more rapid wear than amalgam. Replacement is usually due to marginal leakage.	Moderate; Slowly dissolves in mouth; easily dislodged.	Moderate; more resistant to dissolving than glass ionomer, but less than composite resin.
Relative Costs to Patient	Low, relatively inexpensive; actual cost of fillings depends upon their size.	Moderate; higher than amalgam fillings; actual cost of fillings depends upon their size; veneers & crowns cost more.	Moderate; similar to composite resin (not used for veneers and crowns).	Moderate; similar to composite resin (not used for veneers and crowns).
Number of Visits Required	Single visit (polishing may require a second visit)	Single visit for fillings; 2+ visits for indirect inlays, veneers and crowns.	Single visit.	Single visit.

**TYPES OF INDIRECT RESTORATIVE DENTAL MATERIALS**

COMPARATIVE FACTORS	PORCELAIN (CERAMIC)	PORCELAIN (FUSED-TO-METAL)	GOLD ALLOYS (NOBLE)	NICKEL OR COBALT-CHROME (BASE-METAL) ALLOYS
General Description	Glass-like material formed into fillings and crowns using models of the prepared teeth.	Glass-like material that is "enameled" onto metal shells. Used for crowns and fixed-bridges.	Mixtures of gold, copper and other metals used mainly for crowns and fixed bridges.	Mixtures of nickel, chromium.
Principal Uses	Inlays, veneers, crowns and fixed-bridges.	Crowns and fixed-bridges.	Cast crowns and fixed bridges; some partial denture frameworks.	Crowns and fixed bridges; most partial denture frameworks.
Resistance to Further Decay	Good, if the restoration fits well.	Good, if the restoration fits well.	Good if the restoration fits well.	Good if the restoration fits well.
Estimated Durability (permanent teeth)	Moderate; Brittle material that may fracture under high biting forces. Not recommended for posterior (molar) teeth.	Very good. Less susceptible to fracture due to the metal substructure.	Excellent. Does not fracture under stress; does not corrode in the mouth.	Excellent. Does not fracture under stress; does not corrode in the mouth.
Relative Amount of Tooth Preserved	Good - Moderate. Little removal of natural tooth is necessary for veneers; more for crowns since strength is related to its bulk.	Moderate-High. More tooth must be removed to permit the metal to accompany the porcelain.	Good. A strong material that requires removal of a thin outside layer of the tooth.	Good. A strong material that requires removal of a thin outside layer of the tooth.
Resistance to Surface Wear	Resistant to surface wear; but abrasive to opposing teeth.	Resistant to surface wear; permits either metal or porcelain on the biting surface of crowns and bridges.	Similar hardness to natural enamel; does not abrade opposing teeth.	Harder than natural enamel but minimally abrasive to opposing natural teeth. does not fracture in bulk.
Resistance to Fracture	Poor resistance to fracture.	Porcelain may fracture.	Does not fracture in bulk.	Does not fracture in bulk.
Resistance to Leakage	Very good. Can be fabricated for very accurate fit of the margins of the crowns.	Good - Very good depending upon design of the margins of the crowns.	Very good - Excellent. Can be formed with great precision and can be tightly adapted to the tooth.	Good-Very good - Stiffer than gold; less adaptable, but can be formed with great precision.
Resistance to Occlusal Stress	Moderate; brittle material susceptible to fracture under biting forces.	Very good. Metal substructure gives high resistance to fracture.	Excellent	Excellent
Toxicity	Excellent. No known adverse effects.	Very Good to Excellent. Occasional/rare allergy to metal alloys used.	Excellent; Rare allergy to some alloys.	Good; Nickel allergies are common among women, although rarely manifested in dental restorations.
Allergic or Adverse Reactions	None	Rare. Occasional allergy to metal substructures.	Rare; occasional allergic reactions seen in susceptible individuals.	Occasional; infrequent reactions to nickel.
Susceptibility to Post-Operative Sensitivity	Not material dependent; does not conduct heat and cold well.	Not material dependent; does not conduct heat and cold well.	Conducts heat and cold; may irritate sensitive teeth.	Conducts heat and cold; may irritate sensitive teeth.
Esthetics (Appearance)	Excellent	Good to Excellent	Poor - yellow metal	Poor - dark silver metal
Frequency of Repair or Replacement	Varies; depends upon biting forces; fractures of molar teeth are more likely than anterior teeth; porcelain fracture may often be repaired with composite resin.	Infrequent; porcelain fracture can often be repaired with composite resin.	Infrequent; replacement is usually due to recurrent decay around margins	Infrequent; replacement is usually due to recurrent decay around margins.
Relative Costs to Patient	High; requires at least two office visits and laboratory services.	High; requires at least two office visits and laboratory services.	High; requires at least two office visits and laboratory services.	High; requires at least two office visits and laboratory services.
Number of Visits Required	Two - minimum; matching esthetics of teeth may require more visits.	Two - minimum; matching esthetics of teeth may require more visits.	Two - minimum	Two - minimum