Why is Gold used for Teeth? — Victorian Dental Group

Canonical: https://www.victoriandentalgroup.com.au/blog/why-is-gold-used-for-teeth/

Details:

Gold has been used to restore teeth for a very long time — and despite tooth-coloured materials dominating modern dentistry, it has not disappeared. There are good clinical reasons for that.

A brief detour through fashion

Trends over the decades saw gold become as much an aesthetic statement as a functional one. A gold tooth at the front was popular through the 1980s and early 1990s, signalling both style and means. It occasionally comes up in conversation now as a deliberate aesthetic choice rather than a clinical necessity.

But the reason gold survived in dentistry has little to do with fashion.

Why it works so well

It flexes rather than fractures. Gold alloys are ductile. Under the repeated load of biting and chewing they deform very slightly instead of cracking, which is precisely the failure mode that afflicts brittle materials on back teeth. A gold restoration does not chip.

It resists corrosion. Gold is highly resistant to food acids, oral bacteria and corrosion, which makes it among the most long-lasting restorative options available.

It is kind to the opposing tooth. This is the property most people have never heard of and it matters more than it sounds. Gold wears at a rate close to natural enamel. Harder ceramics can abrade the tooth biting against them over years — so you protect one tooth and quietly wear down its neighbour. Gold does not do that.

It needs less tooth removed. Because gold is strong in thin sections, a gold restoration can be made thinner than a ceramic one. That means less healthy tooth structure has to be cut away to make room for it — a genuine long-term advantage, since tooth structure is the one thing that cannot be replaced.

The margins seal beautifully. Gold can be burnished to an extremely fine, close-fitting edge. A well-adapted margin is what keeps bacteria out, and marginal breakdown is the usual reason any restoration eventually fails.

What gold restorations actually are

The word covers several different things, and the differences matter when you are deciding.

Type	Covers	Tooth removed	Typical use
Gold inlay	Sits within the cusps, like a filling made in a laboratory	Least	A moderate cavity between the cusps

Gold onlay	Covers one or more cusps	Moderate	A cracked or heavily filled tooth needing cusp protection
Full gold crown	The whole tooth	Most	A badly broken or root-treated molar
Gold-backed crown (PFM)	Metal substructure, porcelain facing	Most	Largely superseded, still seen in older mouths

The onlay is the one worth knowing about, because it is the option nobody mentions: more protective than a large filling, considerably more conservative than a full crown, and well suited to gold.

Why it is used less now

Two reasons, and neither is about performance.

Appearance. Most patients prefer restorations that are not visibly metal, and tooth-coloured materials have improved enormously.

The gold price. Gold alloy is a commodity, and the cost of the material itself has risen substantially over the decades.

A third, less often admitted: fewer laboratories and fewer practitioners work with cast gold routinely now. The technique is exacting, and in a profession that has moved towards scanning and milling, casting has become a specialised skill rather than an everyday one.

How the main options compare

	Gold alloy	Ceramic / porcelain	Composite resin
Appearance	Visibly metal	Tooth-coloured	Tooth-coloured
Behaviour under load	Flexes; does not chip	Brittle; can fracture	Wears and can chip
Effect on opposing tooth	Close to enamel	Can abrade it over years	Gentle
Tooth removed to fit it	Least	More	Least, for small repairs
Typical longevity	Longest	Long	Shortest
Repairable in the chair	No — remade	Usually not	Yes
Suits heavy grinders	Very well	Less well	Poorly

No row in that table wins outright. Gold trades appearance for durability; ceramic trades some durability for appearance; composite trades longevity for being conservative, repairable and cheaper.

A note on zirconia , which is what most "white crowns" on back teeth are made of now. It is very strong and does not fracture the way older porcelains did. Its trade-off is the opposite of gold's: it is harder than enamel, so where it meets a natural tooth it can wear that tooth over years, and it needs more thickness, so more tooth is removed. Well-polished zirconia is gentler than rough zirconia, which is why a crown that has been adjusted should always be re-polished.

Is it actually gold?

Not pure gold — pure gold is far too soft to chew on. Dental gold is an alloy , gold combined with other metals to give it the hardness and springiness the job needs. "High-noble" alloys contain a high

proportion of gold and other noble metals; alloys with less gold cost less and behave differently.

This is worth asking about if the material matters to you, because "gold crown" covers a range of compositions and a range of prices. It is also why a gold restoration is priced on more than the metal: the laboratory work and the fit are a large part of what you are paying for.

The colour is a clue but not a reliable one. A pale yellow restoration may be a lower-gold alloy; a silver-coloured metal crown is usually a base-metal alloy rather than gold at all. If you want to know what is in your mouth, ask — the laboratory docket records it.

Where it still makes sense

Gold remains a strong candidate for:

Back teeth , particularly molars that are not visible when you smile

Heavy grinders , where ceramic restorations fracture and gold does not

Teeth with limited remaining structure , where the thinner preparation preserves what is left

Patients who have had repeated failures of tooth-coloured restorations in the same tooth

Teeth with limited space between the biting surfaces, where there is not enough room for a ceramic of adequate thickness

If you grind, an occlusal splint is worth discussing alongside whatever material you choose.

And where it does not

Any tooth that shows when you smile , unless you actively want it to

Where a known metal allergy is in play — uncommon with high-noble alloys, but tell us

Where the budget is the binding constraint and a well-made composite or ceramic will do the job

Where the tooth's long-term future is uncertain. There is little point placing the most durable restoration available on a tooth with a questionable root or advanced bone loss

What having one made involves

Two appointments, usually two to three weeks apart.

Preparation. Local anaesthetic; the tooth is shaped, and any old filling material and decay removed

Records. A scan or impression, plus a record of how you bite

A temporary , cemented with soft cement so it can be removed cleanly

Laboratory work. The restoration is cast and finished by a dental technician

Fitting. The temporary comes off, the fit and margins are checked, the bite is adjusted, and it is cemented

Between appointments, avoid sticky food on that side and floss out sideways rather than pulling up through the contact, so the temporary stays put. If it comes off, keep it and call — a prepared tooth left uncovered becomes sensitive and can shift.

Living with a gold restoration

Nothing special is required. Brush and clean between your teeth as normal — the tooth underneath can still decay at the margin, which is where any restoration eventually fails, so the gumline join is the part that matters.

A few practical notes. Gold does not stain or discolour, and it will not lighten with whitening — nor will any other restoration, which is why whitening is done before restorative work rather than after. Some people notice a brief metallic sensation when a new gold restoration first meets a metal fork or a foil wrapper; it settles. And gold restorations are not a problem for MRI scanning, though you should always tell the radiographer what is in your mouth.

When one eventually needs replacing , the sign is usually decay at the margin found on an X-ray, or the restoration becoming loose, rather than the gold itself wearing out. A gold crown that has been in place for decades and is still sealed is not a candidate for replacement just because it is old.

The choice is yours

The wonder of modern dentistry is that there is genuine choice in what your tooth is restored with. In practice that decision usually comes down to two things: aesthetics and desired appearance , and budget .

Your practitioner will explain which materials suit the particular tooth — where it sits, how much force it takes, how visible it is, and how much structure remains — and set out the costs before anything begins. There is rarely only one defensible answer.

See our pages on crowns and bridges and fillings and restorations for the full range of options.

Book a consultation

Victorian Dental Group is a general dental practice in Malvern East and holds no specialist registration. Our dentists provide gold, ceramic and composite restorations, and will tell you which the tooth actually calls for before discussing which you prefer.

Victorian Dental Group — 291 Wattletree Road, Malvern East VIC 3145

Phone (03) 9088 5808 · Monday to Friday, 8:00am–5:00pm · book online at any hour.

This page is general information and does not replace advice from a registered dental practitioner about your own circumstances. Please see our Disclaimer .

Why is gold used in dentistry at all?

Because it performs extremely well in the mouth. Dental gold is an alloy, not pure gold, and it does not corrode, does not react with food acids, and can be cast to fit a tooth very precisely. Gold restorations are among the longest-lasting dental work there is.

What makes it mechanically suited to teeth?

It is strong enough to take heavy biting forces without fracturing, yet can be made thinner than porcelain, so less tooth structure has to be removed. It can also be burnished to an extremely close fit at the margin, which is the part of a restoration where decay usually starts.

Is gold kind to the opposing teeth?

Yes, and this is an underrated advantage. Gold alloys wear at a rate similar to natural enamel, so they do not grind down the teeth they bite against. Porcelain is considerably harder than enamel and can wear the opposing tooth over years — a real consideration for anyone who grinds.

Why is it not used much any more?

Appearance, mainly, and the cost of the metal. Tooth-coloured composite and ceramic restorations now do most of the work, and for front teeth that is clearly the right choice. Gold is still used where its properties matter most — back teeth, heavy grinders, and situations where there is limited room for a restoration.

Does a gold crown still mean removing tooth structure?

Yes. Any crown or onlay, in any material, requires the tooth to be prepared, and that is irreversible — the tooth will need a crown on it from then on. Gold generally needs less reduction than porcelain, which is a genuine conservative advantage, but it is not a way of avoiding preparation altogether.

What about gold teeth as a style choice?

Gold front teeth were fashionable in the 1980s and 1990s and turn up periodically since. Placing a gold crown on a healthy front tooth for appearance alone means cutting down a sound tooth permanently — that is a significant thing to do for a look that may date, and it is worth thinking about carefully rather than quickly.

Are removable gold grills safe?

They need care. Decorative grills trap plaque against the teeth and gums, and worn for long periods they can cause decay, gum inflammation and recession. If you wear one, take it out for eating and sleeping, clean both the grill and your teeth thoroughly, and do not wear it continuously. Avoid any that are not custom-made, since a poorly fitting one can damage the enamel and the gum.

How do I decide what material to use?

On the position of the tooth, how much structure remains, your bite and whether you grind, how visible it is, and cost — discussed against your own teeth rather than in the abstract. You receive a written treatment plan with the options and fees before anything begins. Victorian Dental Group, 291 Wattletree Road, Malvern East VIC 3145 — (03) 9088 5808, Monday to Friday 8:00am to 5:00pm.

Do gold restorations set off airport scanners?

No.

Can I keep the old one when it is removed?

Ask. Practices dispose of removed restorations through scrap-metal recovery, but there is usually no objection to you keeping your own.

Does health insurance cover it?

Crowns and onlays usually sit under major dental, subject to waiting periods and limits. The benefit is set against the item number, not the material, so a gold crown and a ceramic one generally attract the same benefit even where the fees differ. Check with your fund. See private health insurance.

Is it safe?

Dental gold alloys have a very long record of use. Tell us about any known metal allergy, as with any material.

Can I have the gold one replaced with a white one?

Yes, though replacing a sound restoration means cutting more tooth away. If it is working, there is a real argument for leaving it.

Does it cost more?

It depends on the alloy and the laboratory work, and the gold price moves. You will be given the figure in writing before anything starts.

Is it stronger than a ceramic crown?

It behaves differently rather than simply being stronger — it bends slightly where ceramic cracks. For someone who grinds, that difference is the argument.

Will people see it?

On an upper molar, rarely. On a lower molar, sometimes when you laugh. Your practitioner can show you where it would sit before you decide.