



Waterlase[®]

CROWN & VENEER REMOVAL PROTOCOL GUIDE

Clinicians are Replacing More Crowns & Veneers Now Than Ever Before!

CROWNS AND VENEERS EVENTUALLY MAY NEED TO BE REPLACED.

The longevity of veneers can be impacted by caries around the margins, discoloration, microleakage of the resin cement and marginal fracture of restorations. While maintaining good oral hygiene can certainly extend their lifespan, they still may need to be replaced around the 10-year mark.

IMPROPER PLACEMENT

Another common reason for laser restoration removal is to correct poor seating/imperfect positioning and be able to save the restoration to be used again.

Remove Ceramic Crowns & Veneers Safely and Effectively with Waterlase®

QUICK AND EASY WATERLASE SOLUTIONS

Waterlase is FDA cleared for the removal of ceramic/porcelain crowns and veneers. Waterlase laser technology degrades the bonding interface, which leads to quick and easy removal of the restoration from the tooth surface, often in a single piece without damage!

SAVE TIME!

- ✦ Remove individual veneers in less than 60 seconds
- ✦ Remove full coverage crowns in less than 5 minutes using laser technology
- ✦ Save time by reusing the same restoration, and not having to re-scan the tooth for a new restoration.

SAVE RESTORATIONS!

Waterlase's natural light and cooling water spray reduces and eliminates the generation of excess heat, allowing for safe and quick removal without damaging tooth pulp.

CHALLENGES WITH TRADITIONAL METHODS

One of the biggest challenges is ensuring there is no damage/no removal around tooth structure, which is more likely to occur with high-speed handpieces and diamond burs. Traditional methods are more time consuming, restorations are destroyed, and mechanical forces are uncomfortable for patients. Also, burs/diamonds can wear down and are cost prohibitive to replace.

PRECISION REMOVAL!

Waterlase allows for precision removal while saving tooth structure. Laser removal often does not remove additional tooth structure, and preserves margins. After removing restoration, any remaining cement is typically easily removed with a curette.

Laser technology remains at the forefront of esthetic dentistry, and has become the gold standard for treatment, especially for crown and veneer removal.



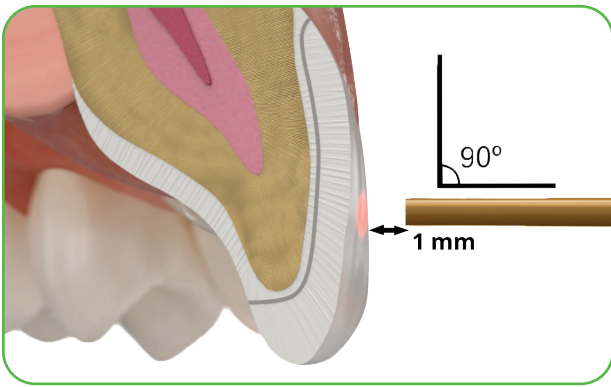


Fig. 1 – Er,Cr:YSGG laser tip positioned near the veneer to be removed.



Fig. 2 – Begin by firing the laser around the perimeter of the veneer.



Fig. 3 – Move the laser tip laterally over the entire surface of the veneer.

VENEER RESTORATION REMOVAL

1. Read the laser user manual for settings and guidelines.
2. Appreciate that the laser energy is targeting the cement, so the total surface area of the veneer must be covered for the full effect of micro implosions.
3. Begin by aiming the tip perpendicular to the restoration surface and slowly moving the tip in a non-contact mode (1 millimeter from the surface) in a slow process around the edges of the veneer (Figures 1-2)
4. Cover the full restoration surface with the laser beam, moving the tip from mesial to distal and from incisal to cervical in a back-and-forth or circular motion.
5. If the veneer is not displaced, repeat steps 3-4.
Note: the veneer may be removed after 60 seconds of laser treatment. (Figure 4).
6. After covering with the laser, remove the restoration using a curette under the restoration edge, If necessary. Remove any residual resin on the preparation using a curette.



Fig. 4 – Veneer separates at the resin cement junction and is removed.

Recommended Settings

Waterlase System	Procedure Step	Handpiece	Tips	Power	Hz	Energy per Pulse	Mode	Water	Air
iPlus	Advanced (Crown icon)	Gold	MZ8 MZ10 MC12	3.5 W	20 Hz	175 mJ	H	50%	50%
Express	Restorative Class I or II Comfort Prep	Express							

*Not to exceed 320mj, or 6.25W at 20Hz.

Visit biolase.com/CV-Removal for more information.

CROWN RESTORATION REMOVAL

1. Full coverage crowns are usually thicker than veneers. Settings used for crown removal are generally higher.
2. Apply the same technique as veneer removal to each of the surfaces of the crown. All cement under the crown must be laser-treated.
3. Use the laser as perpendicular as possible to the following surfaces in a slow circular or lateral motion:
 - a. Mesial, b. Distal, c. Facial, d. Lingual, e. Occlusal — Fire the laser for 30 seconds on each plane, covering the entire surface. (Figure 5)
4. Use forceps to detach/pull the crown, such as in an extraction technique.
5. If one does not observe a response, repeat steps 3-4, ensuring complete coverage. Treat a maximum of 5 minutes total. If it does not come off, use mechanical methodology.

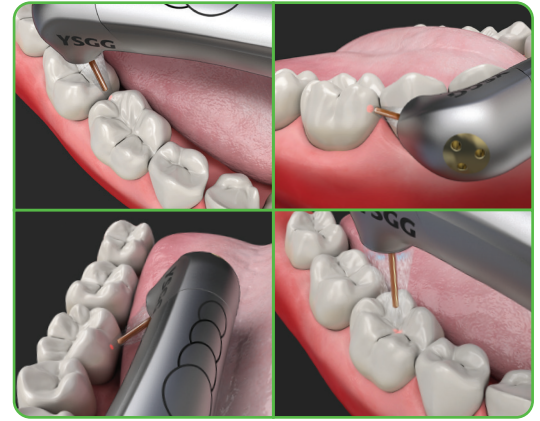


Fig. 5 – Move the laser tip laterally over the entire surface of each plane of the crown, fully covering the entire surface.

Recommended Settings

Waterlase System	Procedure Step	Handpiece	Tips	Power*	Hz	Energy per Pulse	Mode	Water	Air
iPlus	Advanced (Crown icon)	Gold	MZ8 MZ10 MC12	4 W	20 Hz	200 mJ	H	50%	50%
Express	Restorative Class I or II Comfort Prep	Express	MZ8 MZ10 MC12	3.7 W	15 Hz	250 mJ			

*Not to exceed 320mJ, or 6.25W at 20Hz / 4.75W at 15Hz

Frequently Asked Questions

DOES IT WORK ON ZIRCONIA?

Zirconia crowns are ceramics! So, this is effective on all-zirconia, zirconia mixed with lithium disilicate, lithium silicate / disilicate.

WHAT OTHER MATERIALS DOES IT WORK ON?

Specific materials tested and confirmed: all-zirconia / full zirconia, layered zirconia (i.e. porcelain fused zirconia), lithium disilicate, leucite glass.

WHAT CEMENTS ARE CONFIRMED TO WORK?

Cements tested and confirmed: resin, resin modified glass ionomer, glass ionomer.

WHAT DOES IT NOT WORK ON?

No P.F.M Porcelain or Ceramic Fused to Metal! NEVER use on metal or metal-backed surfaces. No Full Metals, no metal-oxide cements. If there is very bright light flashing immediately on laser application, stop and switch to mechanical removal techniques.

WHAT FACTORS INTO REMOVAL TIME?

All materials above could be treated at the same settings. Thicker crowns/veneers need longer time. Thinner materials needed lower settings as the materials are more prone to fracture. Be sure to have complete coverage as even one pinhead-sized cement missed by your laser coverage could hold the restoration on. Overlapping coverage is best. Use larger diameter tips such as the MZ8.