When removing existing composite restorations, an Er,Cr:YSGG laser saved more tooth structure than did a rotary instrument. In addition, fewer composite remnants were left in the preparation when using the Er,Cr:YSGG laser for composite restoration removal.

CONCLUSIONS

Existing composite restorations may be an advantage in reducing both tooth structure loss and preservation of tooth structure. Our study suggests that using an Er,Cr:YSGG laser to remove existing composite restorations could be an option when the clinical operators in our study each had more than 20 years of experience, the precision of tooth structure removed and composite remaining were being measured, the operators understood that intentionally leaving composite or deliberate overpreparation would be obvious. In addition, because the clinical operators in our study each had more than 20 years of experience, the precision of tooth structure removal likely depended not only on instrument characteristics but also on personal experience.
