

most common documentation for those cases, we evaluated radiographs and noted correlation between outcome and radiographic parameters after each case was completed. All radiographic measurements were performed by one of the periodontists on cases where the case was completed as either extraction or restored and where diagnostic preoperative radiographs were available.

Although scientific literature contains diagnostic reasoning for crown lengthening and descriptions of crown lengthening procedures starting from the 1970s,¹⁰ little research has been done to examine crown lengthening outcomes including tooth survival. To our knowledge, only one study examined tooth survival after crown lengthening surgery. The study reports a tooth survival rate in the 83 to 98 percent range over three to 10 years, which is comparable to survival of dental implants and root canal-treated teeth.³² This study also confirms some of our findings, as it also identifies posterior teeth as the teeth most commonly needing crown lengthening. It also shows poor crown-to-root ratio as a good predictor for tooth loss in teeth that may need crown lengthening.

Conclusion

In this retrospective study of crown lengthening cases at the Dental Center of Western University of Health Sciences, crown lengthening needs were identified in about 1–10 percent of the adult patient population. In most cases where crown lengthening needs were identified by a general dentist, patients discontinued treatment prior to referral or teeth were extracted. Crown lengthening procedures were most commonly needed for molars and premolars with interproximal, recurrent caries close to the pulp in middle-aged patients with common, mild systemic conditions and

mild periodontal disease. Following these cases for at least one year, teeth crown lengthening needs were most likely successfully restored and retained if they received crown lengthening and were managed by a periodontist and general dentist. For teeth evaluated for crown lengthening, poor expected crown-to-root ratio and furcation invasion were the most useful determinants for eventual extraction versus successful restoration. ■

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