TABLE 3A

Characteristics of Teeth With Crown Lengthening Needs

Tooth/Location	Percent of teeth (number)	
Maxillary molars	25.0%	(191)
Maxillary premolars	21.0%	(157)
Maxillary canines	5.9%	(45)
Maxillary incisors	6.2%	(47)
Mandibular molars	31%	(238)
Mandibular premolars	9.0%	(68)
Mandibular canines	1.2%	(9)
Mandibular incisors	0.3%	(2)

This table lists crown lengthening needs by tooth type, as originally identified by a general dentist. For three teeth, crown lengthening needs were recorded for a general area. Comparing these frequencies to other time points in treatment, molars and premolars were the most commonly affected teeth at all time points. When comparing crown lengthening needs of different tooth groups, a significantly higher need for crown lengthening for posterior teeth ($p = 0.03$, chi-square method with Yates correction) was noticed. No statistically significant differences were seen between left and right side or maxilla versus mandible.

TABLE 3B

Reasons Crown Lengthening Needs Were Identified

Reason		Percent of teeth (number)	
Caries	Enamel only	0.9%	(7)
	D1	4.1%	(31)
	D2	6.3%	(48)
	D3	15.6%	(118)
	Clearly into pulp	46%	(348)
External resorption		0.2%	(2)
Other restorative need	Miscellaneous needs	1.7%	(13)
	Lengthen short crown	1.2%	(9)
	Correct overhanging restoration	1.5%	(11)
	Improve esthetics	2.8%	(21)
	Replacement missing restoration	2.9%	(22)
	Reestablish biologic width	3.4%	(26)
	Restore fractured tooth	4.5%	(34)
	Treat open margins	8.9%	(67)

At various time points during treatment, tooth characteristics and reasons for crown lengthening stayed similar throughout treatment. For three teeth, crown lengthening needs were recorded for a general area and no rationale was given. The most common reason crown lengthening was needed was for restoration of deep caries involving the pulp.

Results

How Common Are Crown Lengthening Needs in Adult Patients?

In our clinic, about 1–10 percent of patients appear to have crown lengthening needs, as crown lengthening needs were recorded for 584 patients out of 5,536 adult patients. A fraction of these patients received crown lengthening procedures as the result of patient dropout, patient choices and dental treatment decisions. These 584 patients had 760 teeth that were recognized by general dentists to need crown lengthening. However, only about one-tenth of these cases actually received crown lengthening. As seen in **TABLE 1**, most teeth with crown lengthening needs did not receive crown lengthening procedures because more than 30 percent of patients discontinued treatment prior to the procedure. There was a consistent rate of patient dropout as these cases progressed, with 12 percent of patients not returning after the initial dental exam. Another 10 percent of patients did not start treatment after treatment plan presentation and 10 percent discontinued dental treatment during initial dental treatment.

The second most common reason for nonreferral was that teeth were extracted, either as decided by patients (11 percent) or restorative dentists (12 percent) who declared the teeth nonrestorable. In another 12 percent of teeth, restorative dentists planned restoration of these teeth without periodontal consults. Among the remaining 34 percent of teeth that were referred for evaluation and treatment, only half of these teeth were deemed possible candidates for crown lengthening by periodontists and only a quarter of those teeth actually received crown lengthening. We observed that for 86 percent of the teeth, referral was initiated by a general dentist. In the remaining cases, the referral decision for crown lengthening was made after consultation with a prosthodontist or endodontist.

Considering patients instead of teeth, crown lengthening needs were identified in 10 percent of all patients by restorative practitioners, 4 percent of all patients were referred for evaluation for crown lengthening and only 1 percent of all patients actually received crown lengthening. When tracking the source of patients, we observed that about 90 percent of crown lengthening patients originally had self-referred to the dental clinic for general care and only 5 percent of crown lengthening patients were originally seen for acute needs such as a toothache. The remaining patients were originally referred from outside dental providers, such as community clinics and hygiene school clinics.

What Is the Typical Patient and Tooth That Needs Crown Lengthening Procedures?

The average age for a patient identified to need crown lengthening procedures is 45.5 years +/− 16.2 years, with a slight but statistically significant bias toward female patients and Hispanic ethnicity ($p < 0.001$, chi square with Yates correction)(**TABLE 2**). The most common conditions were hypertension, history of tobacco use, asthma or type 2