Do you practice marginal dentistry?

Marginal dentistry—arguably one of the most critical factors in predictable long-term success.

Marginal dentistry—not the kind that borders on unacceptable quality, but the kind that pays strict attention to the restoration-tooth interface.

Marginal dentistry—the kind that understands how critical restorative margins are as protection for both tooth and restorative material against the harsh oral environment that assaults oral structures constantly.

We cannot read a journal about restorative dentistry today without finding warnings about how to handle the margins of restorations. Those warnings are valid. A new patient at Baylor's dental clinic last week demonstrated why attention to "marginal" dentistry is so important. As I reflected on the clinical findings, this editorial was born.

Margins are where weak, unsupported tooth structure may fracture off, creating an entry point for plaque, bacteria, acids, and debris to accumulate. Margins are where open, unsealed areas invite the same fate, leading inevitably to recurrent caries. Margins are where open dentinal tubules and/or exposed cementum can lead to thermal, mechanical, and chemical sensitivity. Margins are where dark stains can develop and ruin otherwise attractive restorations. Margins placed in noncleansable areas are where recurrent caries often begins. Margins not well-cleaned and smooth following restorative interventions are where plaque, calculus, and debris accumulate and begin the inexorable process of periodontal deterioration. Margins that do not provide physiologic emergence profiles are where gingival tissues become inflamed and unattractive. Poorly adapted and finished margins are where cement ultimately washes out, leading to all the conditions listed above.

Every one of these factors is present in this patient's mouth. The patient's hygiene is better than average, motivation is high, and frustration with dentistry is growing! The dental technology is excellent in both color match and treatment choice, but it is a failure because of the margins. Our proposal for restoring this patient to a healthy oral state will be the third major dental treatment series in the patient's 51 years of life. It would be unnecessary if good "marginal" dentistry had been carried out during the previous rehabilitation!

Bad margins make bad results, no matter how well-performed one's restorative dentistry is. We must do our best at *every* step, stage, and aspect of our clinical activities. There are no "minor" aspects to predictably successful restorative dentistry!

So how can we improve our "marginal" dentistry? There are about half a dozen factors that will enhance the quality of restorative margins and thereby improve the prospects for long-term success in operative techniques. We learned them all in dental school, but we seem to grow complacent and begin to ignore some of them. (Do you include a full soft tissue examination in all of your initial evaluations?)

Preventive placement: Restorative dentistry must be planned so that margins are smooth, invisible, accessible, cleansable, and protected. None of these elements can be compromised if one seeks long-term success in restorative dentistry.

Careful preparation: Different materials demand different marginal forms, but they all demand the common element of smooth, even, distinct, accessible form.

Enhanced visibility: I do not know a successful practitioner of full-mouth restorative dentistry who does not wear a good magnification system during operative procedures.

Flawless sealing: No operative procedure can tolerate sulcular leakage during the sealing process, so moisture control by a combination of meticulous patient hygiene and pretreatment periodontal therapies and prophylaxes is the first step, followed by flawless tissue retraction and luting of the clean, well-fitting, uncontaminated crown or sealer-/primer-based restoration to a clean, noncarious, uncontaminated tooth and margin.

Meticulous finishing: The remnants of the luting process must be totally eliminated to provide a perfectly smooth marginal interface that blends seamlessly into a physiologically tolerable emergence profile of tooth/margin/restoration.

Conscientious maintenance: As in all of dentistry, patients who have not demonstrated a willingness and an ability to carry out adequate, consistent, long-term home care should not be candidates for definitive restorative dentistry.

Marginal dentistry—meticulous attention to detail. It's always a good time to reevaluate our treatment processes and improve them where we can. It's what distinguishes the master practitioner from the mediocre. I know which group I would like to be in.

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