BIOLOGIC WIDTH

When a tooth is severely damaged by decay, trauma, or fracture, its restoration becomes more difficult. The restoration of choice in these instances is a lab-processed crown or partial coverage onlay. Usually, it is much better and less costly in the long run to save the tooth rather than extract it and consider an artificial replacement. If the damage extends below the gumline, to near or beyond the crest of the bone, preliminary treatment is required before the restoration can be successfully place.

Biologic width is a term used by dentists to describe a 2.5-mm distance that must exist between the crest of the bone (closest to the biting surfaces of the tooth) and the end of any restoration. If this 2.5-mm distance is not kept, the soft tissue (gum tissue) will become chronically inflamed and the crown or onlay will be a failure. Insufficient biologic width must be corrected.

There are several possibilities for creating sufficient biologic width. What we recommend will depend on the severity of the damage, which tooth is affected, and the bone and gum architecture of the adjacent teeth.

For posterior (multi-rooted) teeth, the corrective therapy, also known as crown lengthening, involves a periodontal surgical procedure. An incision is made in the gum tissue around the tooth. The tissue is reflected, and the fracture site, visualized. Then, the height of bone is reshaped so that it is not near the place where the restoration will end. Only enough bone is removed to establish the 2.5-mm biologic width. Obviously, there will be a limit as to how much bone can be reshaped. Most of the time, this can be determined before surgical entry. At times, this may not be known until the affected site is clearly visible. Radiographs do not always give the whole picture. After the surgery, there will be a 3 to 4 month wait so that the side can heal. After that time, the final restoration can be started. Dr. Gould also has a Solea Laser at his Palmyra office that can do this procedure non-surgically.

For single-rooted teeth, surgery can be done. But rather than cutting away gum and bone, sometimes it is possible to orthodontically erupt the tooth so that the fracture site is moved away from the crest of the bone. This can be done in about 4 months. If the tooth is moved in this manner, the bone will slowly come along with the tooth. After the tooth has reached its final position, the bone will need to be trimmed to the proper relationship with the adjacent tooth. For some teeth, rapid eruption may be possible. When done in 3/12 to 4 weeks, the bone will not move along with the erupting tooth so it may not have to be adjusted. When the orthodontics is done, the tooth must be stabilized in the new position for about 6 months before the final restoration can begin. In some situations, a combination of both types of approaches will be used. The Solea can also be used in this situation as well, without much pain or bleeding.

If you need to have a proper biologic width restored before restoration of a tooth, it can be established orthodontically or surgically or in combination. If this is not done, the final restoration will never be successful. What we will recommend to you depends on the nature of the break, which tooth is broken, and the position of the adjacent teeth, gingival tissues (gum), and bone.

If have any questions about the need for adequate biologic width, please feel free to ask us.