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| **Name:** |
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| **Group:** |
| 2A-4 |
| **Basic Science Question:** |
| Why do we need to consider biological width when placing subgingival margins? |
| **Report:** |
| Subgingival restorations are restorations with margins below the gingiva, and can be crowns/class2 or class 5 restorations. They are used for a number of reasons: when caries, fracture lines or old restorative margins extend subG, when we need to achieve adequate ferrule/increase retention of crowns, or to hide margins for esthetic reasons (esp anterior like our pt).  It is important to consider the location of the biological width when using a subG margin. Biological width is the distance established by the junctional epithelium and connective tissue attachments to the root surface. Basically between the deepest part of the gingival sulcus and the alveolar bone crest. In order to promote an efficient gingival healing process after placing a restoration with subgingival margins, we have to maintain the biological width of gingiva at the restoration site. If we place the margin of a restoration without considering the biological width, we can impinge on the supercrestal tissue attachments and we can expect an uncontrolled inflammation process which can lead to gingival recession, periodontitis and potentially bone loss.  Typically the gingival healing process consists of three phases: inflammation, new tissue formation, and tissue remodeling. This full process in a healthy patient takes on average 15 days. If the restoration impinges on the biological width though, the affected attachments will cause increased inflammation. This deep gingival pocket will be difficult for the patient to clean properly, leading to chronic inflammation. In order to make more room for new attachments to form between the alveolar bone and the restoration margin, the body may trigger a process of bone reabsorbtion in the area of the restoration.  If we are unable to achieve a subG margin without impinging on the bio width- we would recommend crown lengthening. |
| **References:** |
| <https://www.endoexperience.com/documents/Biologic_Width.pdf>  <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3284004/> |