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Basic Science Question:

What are the similarities and differences between a regular prophylaxis and scaling and root planing?

Report:

Prophylaxis, scaling and root planning are often used prior to more extensive dental procedures. These non-surgical measures are used in preparation for surgical procedures, like perio-implants. They are also used in varying circumstances, which vary from patient to patient. There determining factors include patient perio status, patient risk factors and further infection risk.

Prophylaxis is considered more of an preventative oral measure and is used to remove plaque, calculus and other stains from the tooth structure in order to prepare the oral cavity for further surgical procedures. While regular prophylaxis is often used for patients in good health, antibiotic prophylaxis is also often recommended for patients who are at risk for “infective endocarditis, are immuno-compromised or where foreign materials are being used, like perio-implants” (Singh, et.al, 2018). Regular prophylaxis often includes simple brushing, flossing, polishing and other preventative measures the dental provider can use to ensure adequate oral health prior to further procedures.

Scaling and root planning (SRP) on the other hand, involves more extensive and therapeutic care compared to regular prophylaxis. Scaling and root planing both involve “debridement of supra and subgingival plaque and calculus, which is carried out by ultrasonic and hand instruments, followed by smoothing of the exposed root surfaces “ (Najeeb, et.al, 2018). These two procedures are often used for individuals with presence of gingival inflammation with the possibility of further infection. Scaling and root planing have specific goals in regards to therapeutic care, but both do so in different ways,

Scaling is the process of removing plaque, calculus and other debris from supra and sub gingival surfaces. This may involve using scalers and curets to remove the deposits. Root planing follows scaling and involves the smoothing out of subgingival tissue by removing rough cementum and dentin that is contaminated with plaque and other debris. The goal of root planing is to reduce inflammation and further improve the depth of the sulcus in the subgingival space. SRP effectiveness is often limited by factors including tooth anatomy, type of tooth, probe depth and other factors. In one study, “The results demonstrated a high correlation between percent of residual calculus and pocket depth” (Rabbani, 1981). Many other correlations can be made regarding the effectiveness of SRP including its positive effects on CAL and further gingivitis.

Scaling and root planing allows for proper preparation of the teeth for further procedures, and furthermore, there has been extensive research done illustrating the effectiveness of SRP on

CAL, probe depth, further gingivitis and perio disease. To summarize, these two procedures are both commonly used for patients prior to more extensive procedures. It depends, however, on the patient's oral health status. It may only require preventative, regular prophylaxis or more therapeutic and involved SRP.

References:

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Rabbani GM, Ash MM Jr, Caffesse RG. The effectiveness of subgingival scaling and root planing in calculus removal. *J Periodontol*. 1981 Mar;52(3):119-23. doi: 10.1902/jop.1981.52.3.119. PMID: 7014822.

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