

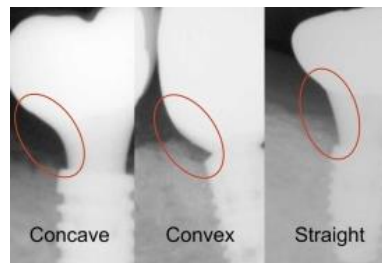
Prosthetic Prevention of Peri-Implantitis

Author: Amy M.K. French, DMD, MS

As any dental professional knows, implants have been a blessing to our patients. In contrast, peri-implantitis has been a curse, both for them and for us. So, how do we improve the outcomes with peri-implantitis cases increasing on almost a daily basis? Of course, following surgical parameters and proper patient selection is tantamount to success, but what about the other side of the coin? Literature shows that the final prosthesis can absolutely make or break the success for implants. Below are some non-negotiables when it comes to execution of an implant prosthesis.

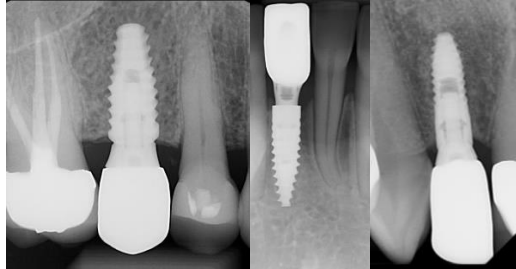
To aid in the prevention of peri-implantitis, the following are recommended.

- Screw-retained restoration whenever feasible. Cement remnants create a foreign body reaction and result in subsequent bone loss. If a cement-retained restoration is necessary, all effort must be made to remove residual cement. Remember, not all cements are radiopaque, and radiographs can only help us detect cement on mesial and distal surfaces.
- Custom abutment (angle correction as/if needed) with distinct transmucosal component of at least 2 mm height from implant platform to crown margin. ****Note: If the implant is a tissue level implant, the polished collar acts as the transmucosal component.****
- Emergence angle of < 30 degrees (shallow versus steep), straight or concave profile at the interproximal sites- see below for additional illustration. This will minimize overhangs/cantilevers.

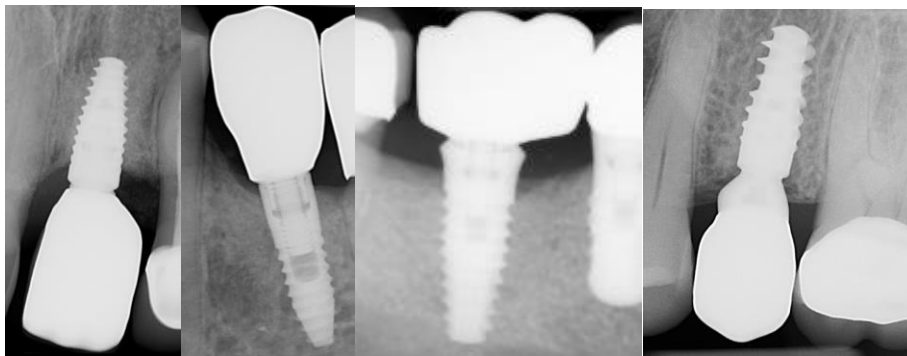


- Adequate embrasure space for interproximal cleaning. As tissues mature, tissue will often continue to fill embrasures.

Clinical examples demonstrating the necessary requirements:



Clinical examples demonstrating prosthetic design flaws:



A, B

A

B

B

Key: A. inadequate abutment height, B. convex emergence angle

We're all in this together. **Let's communicate to each other- including to our dental laboratory colleagues- about what we know, what we see, what we're learning, and what we need in order to achieve excellent outcomes.**

References:

- 1). Linkevičius, T. (2019). *Zero bone loss concepts*.
- 2). Pette GA, Ganeles J, Norkin FJ. Radiographic appearance of commonly used cements in implant dentistry. *Int J Periodontics Restorative Dent*. 2013 Jan-Feb;33(1):61-8. doi: 10.11607/prd.1466. PMID: 23342348. <https://pubmed.ncbi.nlm.nih.gov/23342348/>
- 3). Linkevicius T, Puisys A, Vindasiute E, Linkeviciene L, Apse P. Does residual cement around implant-supported restorations cause peri-implant disease? A retrospective case analysis. *Clin Oral Implants Res*. 2013 Nov;24(11):1179-84. <https://pubmed.ncbi.nlm.nih.gov/22882700/>
- 4). Galindo-Moreno, P., León-Cano, A., Ortega-Oller, I., Monje, A., Suárez, F., ÓValle, F., Spinato, S., & Catena, A. (2014). Prosthetic Abutment Height is a Key Factor in Peri-implant Marginal Bone Loss. *Journal of Dental Research*, 93(7_suppl), 80S-85S. <https://doi.org/10.1177/0022034513519800>
- 5). Lee, B., Kim, B., Kweon, H. H., & Kim, Y. (2018). The prosthetic abutment height can affect marginal bone loss around dental implants. *Clinical Implant Dentistry and Related Research*, 20(5), 799–805. <https://doi.org/10.1111/cid.12648>
- 6). Lin, G.-H., Lee, E., Barootchi, S., Rosen, P. S., Curtis, D., Kan, J., & Wang, H.-L. (2025). *The influence of prosthetic designs on peri-implant bone loss: An AO/AAP systematic review and meta-analysis*. *Journal of Periodontology*, 96(6), 634–651. <https://doi.org/10.1002/JPER.24-0144>