Cantilever Prognosis

Although there is a paucity of literature on the subject, the few papers published indicate that there is no difference with regard to marginal bone level, or implant success or structural failure when using an implant to support a cantilever versus single tooth implants.

That being said, precautions are still taken to ensure the greatest success rate. In the cases presented below, implants were placed in the tooth site that could support the largest implant diameter. Ideally, the longest implant available should also be used to help improve the implant to crown ratio.

In some cases, it has been suggested to use a cement retained restoration over screw retained. If occlusion is well controlled, screw retained restorations offer the advantage of retrievability and lack of subgingival cement extrusion which can lead to peri-implantitis. However, depending on implant angulation, screw access location may be an esthetic problem requiring cement retention.

In addition, with regard to hygiene, the cantilever allows for floss to be pulled under the pontic to reach the implant abutment for cleansing without the use of special instruments: a significant advantage when lack of patient compliance is a high risk factor for poor hygiene leading to peri-implantitis.

References

COIR. Becker et al. 2012.
COIR. Tymstra et al. 2011.
IJPRD. Salama et al. 2007.
J Perio. Tarnow et al 2003.
complete references available on request

Multiple Missing Teeth

Replacement of missing teeth can vary from a simple fixed partial denture or single tooth implant, to full arch removable dentures. Either extreme with regard to the number of missing teeth can be relatively easy to correct. However, even two adjacent teeth that are missing can become quite a challenge to restore, particularly when esthetics is a chief concern.

It can be argued that two adjacent missing teeth in the anterior sextant may be one of the most difficult restorations to achieve optimum esthetics, particularly when missing anything other than two central incisors. The difficulty lies in obtaining an interproximal papilla between the two missing tooth sites, as well as matching the porcelain on the missing tooth site to the natural tooth adjacent.

Tarnow and Salama have each published research to indicate that the least possible papilla height from osseous crest is achieved when two implants are side by side (~3mm), and the greatest possible papilla height can be achieved around a pontic (~6mm). If this is the case, then an implant restoration with a cantilever pontic should afford the greatest chance for esthetics. When paired with hard and soft tissue grafting, or root banking in the pontic site, the chance of success increases. Even so, factors such as soft tissue biotype and variable patient healing capacities play a formidable role in preventing optimal soft tissue esthetic outcomes.

Please enjoy this issue of **ProbeTips** which will review several cases using implant cantilevers to replace adjacent missing teeth.

Pamela A Nicoara DDS MSD PLLC

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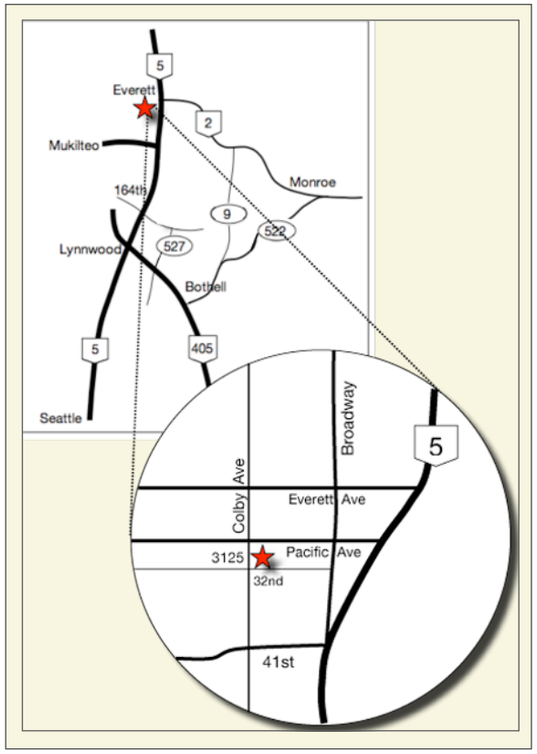

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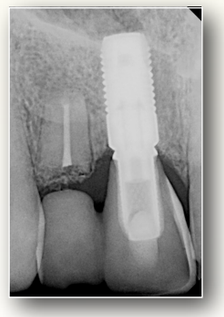
ProbeTips

A Quarterly Periodontal Newsletter

By Pamela Nicoara DDS MSD

Implant Cantilever



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Implant Cantilever

Case 1

For Tom, tooth #7 was congenitally missing. Tooth #8 was serving as a cantilever abutment with a severely shortened root, but was avulsed during a rugby match. The implant was placed in the #8 site with bone grafting, and connective tissue grafting was used to bulk out both sites.

Disadvantages: Thin ridge for site #7 due to congenitally missing tooth, High smile line.

Case 2

Teeth #9 and 10 were endodontically treated in the past and were failing for Sally. Both were removed: Tooth #9 was replaced with an implant, site #10 received a bone socket graft, and both sites received a connective tissue graft.

Advantages: Thick soft tissue biotype, Naturally short papilla

All cases are patients of Dr. Pamela Nicoara unless otherwise specified.

Case 3

Teeth #7 and 8 had been endodontically treated for James, and both were having root resorption from past trauma. Tooth #8 resorption was too far subcrestal to maintain and was removed and replaced with an implant. Tooth #7 could be submerged and used to attempt to maintain ridge dimension. Bone and connective tissue grafting was used for both sites.

Advantage: Low smile line
Disadvantages: Thin soft tissue biotype, Long teeth and papilla

Case 4

For Anne, teeth #7, 9 and 10 were failing with severe recurrent caries. Tooth #8 was missing. Orthodontics was also planned. All remaining maxillary incisors were removed, and implants were used to replace teeth #8 and 9, which serve as cantilever abutments for teeth #7 and 10. Bone and connective tissue grafting were performed at the time of implant surgery, with root coverage on #6.

Advantages: Multiple missing teeth means *all* papilla will be 'short' and easier to mask esthetically, Low smile line.