Single Tooth Immediate & Delayed Implant Placement

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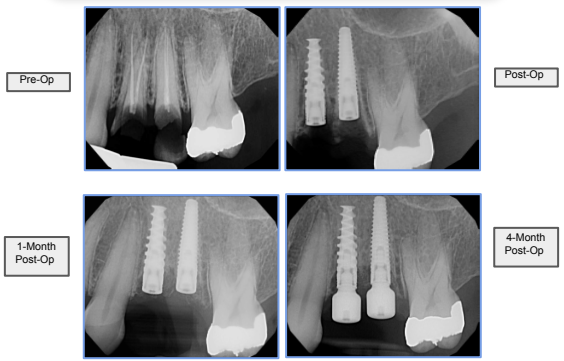
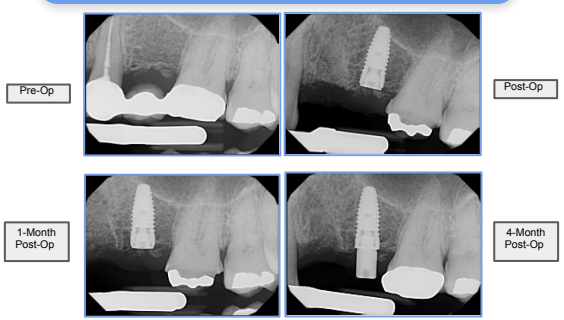
Maxillary Posterior Immediate



Patient A: Immediate Placement without Provisionalization

37 y/o M patient with non-restorable #12, 13 and adequate buccal/apical bone for immediate implant placement. Following extraction, #12 3.5 x 13 mm and #13 3.5 x 13 mm implants placed at 35 NCm and 15 NCm, respectively.

Maxillary Posterior Delayed



Patient B: Delayed Placement without Provisionalization

57 y/o M patient with non-restorable #12 and edentulous site #13 without adequate buccal/apical bone for immediate implants. Following extraction of #12 with bone graft placement, #13 4.3 x 10 mm implant placed at 30 NCm.

Abstract

When discussing treatment options for single tooth replacement, a common reason for patients declining a dental implant is the duration of treatment. While most dental implants are placed in a delayed manner at least 12 weeks after tooth extraction to allow for bone healing, immediate implants placed at the time of tooth extraction have gained popularity across both patients and providers. Knowing the advantages and disadvantages of each technique allows providers to select the best course of treatment for the patient given their treatment goals. Our case review compares immediate placement to delayed placement in both maxillary anterior and posterior sites. Immediate placement was performed on Patients A and B, while delayed placement was performed on Patients C and D. All patients were evaluated for crestal bone loss, implant stability, and soft tissue height at each postoperative visit via clinical and radiographic exam. Both immediate and delayed placement techniques had similar outcomes regarding crestal bone loss and implant stability. Immediate placement resulted in a greater soft tissue height and higher patient satisfaction than did delayed placement. Further patient trials with extended follow-up protocols for each method are needed to better compare immediate to delayed implant placement.

Discussion

Given comparable rates of crestal bone loss, success, and stability, immediate implants are a viable option in treating non-restorable dentition, as they often result in increased patient satisfaction and the preservation of soft tissue height. Case selection ultimately drives the decision between immediate and delayed placement. Patients with thick tissue biotypes, adequate bone beyond the root apex, and dense buccal bone serve as ideal candidates for immediate placement, while those with inadequate bone, less keratinized tissue, and reduced time expectations are better treated via delayed placement.

Immediate Placement

- Benefits: decreased number of appointments, decreased treatment time, greater soft tissue height and patient satisfaction
- Limitations: amount of available bone, more technique sensitive, tissue biotype

Delayed Placement

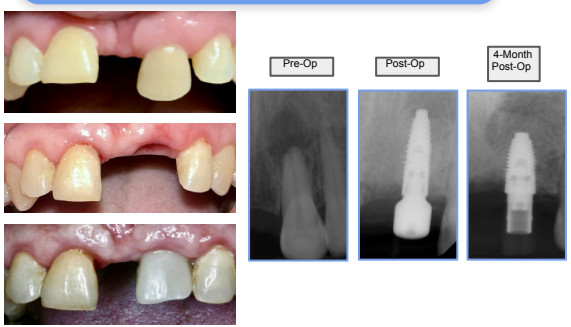
- Benefits: less technique sensitive, increased quantity of hard tissue, resolution of pathology, primary closure
- Limitations: increased number of appointments, increased treatment time, reduction in soft tissue height

Maxillary Anterior Immediate

Patient C: Immediate Placement with Immediate Provisionalization

92 y/o M patient with thick tissue biotype and desire for accelerated timeline elected immediate placement. Following extraction, #9 3.5 x 10 mm implant placed at 35 NCm torque and immediately provisionalized, maintaining soft tissue height.

Maxillary Anterior Delayed



Patient D: Delayed Placement with Delayed Provisionalization

64 y/o F patient with thick tissue biotype and inadequate bone for immediate placement treated via delayed placement. Following extraction with bone graft and membrane placement, #9 3.5 x 10 mm implant placed at 35 NCm torque. #9 provisionalized following three additional months of healing with slight reduction in soft tissue height.