

TREATMENT PLAN OPTIONS

Edentulous Maxilla

1. No Treatment

Disadvantage: Difficulty in Eating / Speaking, Continued Bone Loss, Maintain Current Prosthesis (ill-fitting)

2. Complete Upper Denture

Advantage: Minimal Treatment, Fast

Disadvantage: Removable Prosthesis Disadvantages, Difficulty in Eating / Speaking, Palate Coverage, Continued Bone Loss

- **Masticatory Function:** Dentate patient ~ 250 psi
Edentulous patient ~ < 50 psi
- **Speech Difficulty:** study show 88% have difficulty with speech

3. Implant Supported Overdenture (Removable – RP5)

Advantage: Removable Prosthesis that “clips” in, Added Retention, Soft Tissue Support

Disadvantage: Full denture with palate, have to remove at night, Removable, “clips” need changed on regular basis (additional cost \$), may have associated mobility of prosthesis.

4. Implant Supported Overdenture (Removable-RP4)

Advantage: Removable Prosthesis that “clips” in, Horseshoe shaped (no full palate), no soft tissue coverage, Totally Implant Supported

Disadvantage: Have to remove at night, Removable prosthesis, “clips” need changed on regular basis (additional cost \$).

5. Implant Supported Fixed Prosthesis (Fixed)

Advantage: Fixed Prosthesis (does not come out), Increased Biting Force

Disadvantage: Usually will need extensive bone grafting + more implants, need for pink porcelain or acrylic because of the amount of bone loss, teeth will be larger (FP-2 / FP-3), May not be able to increase soft tissue support, increased expense

* Howell, A. H., and R. S. Manly. "An electronic strain gauge for measuring oral forces." *Journal of Dental Research* 27.6 (1948): 705-712.

* Carr, Alan B., and William R. Laney. "Maximum occlusal force levels in patients with osseointegrated oral implant prostheses and patients with complete dentures." *International Journal of Oral & Maxillofacial Implants* 2.2 (1987).

* Misch, L. S., and C. E. Misch. "Denture satisfaction--a patient perspective." *The International journal of oral implantology: implantologist* 7.2 (1991): 43.

* Berg, Einar. "The influence of some anamnestic, demographic, and clinical variables on patient acceptance of new complete dentures." *Acta Odontologica Scandinavica* 42.2 (1984): 119-127.

Edentulous Mandible

a. No Treatment

Disadvantage: Difficulty in Eating / Speaking, Continued Bone Loss, Maintain Current Prosthesis (ill-fitting)

b. Complete Lower Denture

Advantage: Minimal Treatment, Fast

Disadvantage: Removable Prosthesis, Difficulty in Eating / Speaking, Continued Bone Loss

- Masticatory Function: Dentate patient ~ 250 psi
Edentulous patient ~ < 50 psi
- Masticatory Function: After 15 years ~ < 6 psi
- Speech Difficulty: studies show 88% have difficulty with speech
- Satisfaction: < 66% pts. are satisfied with a mandibular denture

c. Implant Supported Overdenture (Removable – RP5)

Advantage: Removable Prosthesis that “clips” in, less implants required, soft tissue support

Disadvantage: Full denture, have to remove at night, Removable, “clips” need changed on regular basis (additional cost \$).

d. Implant Supported Overdenture (Removable-RP4)

Advantage: Removable Prosthesis that “clips” in, no soft tissue coverage

Disadvantage: Have to remove at night, Removable, “clips” need changed on regular basis (additional cost \$).

e. Implant Supported Fixed Prosthesis (Fixed)

Advantage: Fixed Prosthesis (does not come out), Increased Biting Force

Disadvantage: Usually will require more implants, increased expense, need for pink porcelain or acrylic because of the amount of bone loss, teeth will be larger (FP-2 / FP-3), May not be able to increase soft tissue support.

* Howell, A. H., and R. S. Manly. "An electronic strain gauge for measuring oral forces." *Journal of Dental Research* 27.6 (1948): 705-712.

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Single Tooth Missing

a. No Treatment

Disadvantage: Esthetics, Adjacent teeth will move (tilting) , Supraeruption, Decreased mastication, Food Impaction, Continued Bone Loss, Occlusal Force

b. Partial Denture

Advantage: Minimal Treatment, Fast

Disadvantage: Removable Prosthesis, Difficulty in Eating / Speaking, Extensive pressure on adjacent teeth/ soft tissue which leads to additional tooth loss, Poor long-term success rate, increased bone loss, Tissue Soreness

- RPD Success Rate: ~ 40% at 5 years
~ 20 % at 10 years
- RPD Success Rate: ~ 56 % at 10 years
- Abutment Tooth Loss: ~ 23% at 5 years
~ 38% at 8 years

c. Fixed Partial Denture

Advantage: Fast, Esthetic, Usually no need for Hard/Soft Tissue Grafting

Disadvantage: Alteration of adjacent teeth, Higher incidence of decay, Increased Endodontic Tx, Hygiene difficult

- Caries: ~ 20 % of FPD, Most Common cause of failure
- Endodontic Treatment: 15% of abutments prepared for FPD

d. Implant Supported Crown

Advantage: No alteration of adjacent teeth, Higher success rate than FPD (Most studies > 90% success rate)

Disadvantage: Longer Treatment Time, Requires Bone Quality and Quantity, Esthetic issues possible.

* Wetherell, John D., and Roger J. Smales. "Partial denture failures: a long-term clinical survey." *Journal of Dentistry* 8.4 (1980): 333-340.

* Aquilino, Steven A., et al. "Ten-year survival rates of teeth adjacent to treated and untreated posterior bounded edentulous spaces." *The Journal of prosthetic dentistry* 85.5 (2001): 455-460.

* Shugars, Daniel A., et al. "Survival rates of teeth adjacent to treated and untreated posterior bounded edentulous spaces." *The Journal of the American Dental Association* 129.8 (1998): 1089-1095.

* Payne, Barbara J., and David Locker. "Oral self-care behaviours in older dentate adults." *Community dentistry and oral epidemiology* 20.6 (1992): 376-380.

* Bergenholtz, Gunnar, and Sture Nyman. "Endodontic complications following periodontal and prosthetic treatment of patients with advanced periodontal disease." *Journal of Periodontology* 55.2 (1984): 63-68.

Multiple Missing Teeth

a. No Treatment

Disadvantage: Esthetics, Adjacent teeth will move (tilting) , Supraeruption, Decreased mastication, Continued Bone Loss, Food Impaction, Occlusal Force

b. Partial Denture

Advantage: Minimal Treatment, Fast

Disadvantage: Removable Prosthesis, Difficulty in Eating / Speaking, Tissue Soreness, Places extensive pressure on adjacent teeth/ soft tissue which leads to additional tooth loss, Poor long-term success rate.

- RPD Success Rate: ~ 40% at 5 years
~ 20 % at 10 years
- RPD Success Rate: ~ 56 % at 10 years
- Abutment Tooth Loss: ~ 23% at 5 years
~ 38% at 8 years

c. Fixed Partial Denture (If Indicated)

Advantage: Fast, Esthetic

Disadvantage: Alteration of adjacent teeth, Higher incidence of decay, Increased Endodontic Tx, Hygiene difficult

- Caries: ~ 20 % of FPD, Most Common cause of failure
- Endodontic Treatment: 15% of abutments prepared for FPD

d. Implant Supported Crown

Advantage: No alteration of adjacent teeth, Higher success rate than FPD (Most studies > 90% success rate)

Disadvantage: Longer Treatment Time, Requires Bone Quality and Quantity, Esthetic issues possible.

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