Tooth Supported Overdentures

Where Are We Now?
Overall Treatment Includes The Following Areas

Data Collection And Diagnosis

Systemic Phase

Disease Control Phase

Corrective Phase

Maintenance Phase And Outcome Assessment

Preparatory Phase And Reassessment

An example of a simple tooth supported overdenture patient with two remaining natural teeth which have been treated with root canal therapy and cut off near the FGM.

Source: Jeff Shotwell, University of Michigan, 2008
Why bother to save any remaining teeth?

Classification of the amount of resorption of the mandible as described by Atwood. Six groups were originally described, and four are represented here.

The grade 1 mandible is called High. It can be described as well rounded, has slight atrophy of the alveolar ridge, and the bone height is only slightly reduced. Of the patients reviewed, 11% fell into this category.
The grade 2 mandible is called Knife Edged. This type of mandible has atrophy primarily in the facio-lingual dimension and not as much in the vertical dimension. This category of mandibular shape is often not favorable for implant placement despite the ridge height. Of the patients reviewed 21% fell in this group.

The grade 3 mandible is described as Low, well rounded. This classification of mandible has advanced atrophy and severe reduction of ridge height. This ridge form is usually a favorable configuration for implant placement. 36% of the population reviewed by Atwood had this configuration.
The grade 4 mandible is described as Depressed. With this grade we see total resorption of the alveolar ridge with advanced atrophy in all dimensions. Bone mass is greatly reduced and these cases are often not favorable for implant placement. Of the subjects reviewed 32% were of this type.


The lack of any remaining teeth means we have only the mucosal surface to support our lower denture.

Source: Jeff Shotwell, University of Michigan, 2008
In the past 20+ years, the implant supported overdenture has been gaining in clinical acceptance and patient demand.

A patient treated with two ball anchor type implants to support a lower overdenture.

Source: Jeff Shotwell, University of Michigan, 2008

Development Of Overdentures

Neils Brill
Adaptation and The Hybrid Prosthesis
Classification of Overdentures

- Immediate
- Transitional
- Remote

Advantages of Overdentures

* Support And Stability
* Ridge Preservation
* Increased Biting Force For Patient
* Proprioception
* Retention
* Psychological Advantages For Patient
Terminology

*Overlay Denture
*Hybrid Prosthesis (European)
*Telescoping Denture
*Tooth Supported Denture
*Overdenture

Physiologic Basis For Overdentures

*Sensory Input From Periodontal Receptors
*Alveolar Bone Preservation
*Occlusal Forces Substantially Increased
*Masticatory Performance
*Tooth Mobility Greatly Reduced
This Is The Type Of Patient Who May Benefit From Overdenture Treatment

Source: Jeff Shotwell, University of Michigan, 2008
Reshaping of the alveolar process post extraction
Source: Jeff Shotwell, University of Michigan, 2008

Support mechanisms for a natural tooth and a conventional denture
Source: Jeff Shotwell, University of Michigan, 2008
Influences on resorption pattern and location of anatomic landmarks relative to the crest of the ridge
Source: Jeff Shotwell, University of Michigan, 2008

Physiologic Basis For Overdentures

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Root to crown ratio
Source: Jeff Shotwell, University of Michigan, 2008

Secondary application of the retained root for retention of the lower denture
Source: Jeff Shotwell, University of Michigan, 2008
Psychological Advantages For The Overdenture Patient

“I still have some of my own teeth.”

If the teeth are lost later due to caries, the transition and adaptation to complete dentures has been made more gradually.

Factors Involved In Less Than Favorable Outcomes

* Unrealistic expectations on the part of the patient
* Ineffective communication with the patient
* Failure in patient compliance
* Endodontic / Periodontic Failure
* The use of compromised teeth as abutments
* Misunderstandings relative to fees
The dentist’s perception of the patient’s needs and wishes relative to treatment

These two spheres of potential differences are bridged by effective communication

The patient’s perception of their own needs and wishes relative to treatment

Source: Jeff Shotwell, University of Michigan, 2008

Treatment of patients in which expectations were not mutually acceptable to the treating dentist and/or the patient

*I probably did not listen to my intuition.
*There were warning signs with the patient that I either ignored or “talked myself out of”.
*I didn’t want to disappoint the patient.
*I was afraid of a confrontation if I “stood my ground”.

Classification of Overdentures

Immediate
Transitional
Remove (Definitive)

Immediate Overdentures
Transitional Overdentures

Made by converting an existing removable partial denture to a full denture as a temporary appliance.
Maxillary Overdentures To Prevent Combination Case Syndrome

Source: Jeff Shotwell, University of Michigan, 2008
Patient with heavy occlusal function unlike the previous patient

Source: Jeff Shotwell, University of Michigan, 2008
The Remote Overdenture

Second Generation Appliance

After Healing

Source: Jeff Shotwell, University of Michigan, 2008