

# Implant Overdentures: Overview and Clinical Considerations

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IMPLANT OVERDENTURES can be of 2 types:

1. Those that mainly derive retention from the implants
2. Those that derive retention, stability and support from the implants

The former is known as Implant Retained-Tissue Supported Overdenture and requires lesser number of implants. But the denture cannot be flangeless or palate free as the tissue coverage provides the crucial support. These types of Overdentures may be on splinted or unsplinted implants in the mandible. However in the maxilla, splinting of implants used in Overdenture treatment is crucial as the bone is softer and forces are not always along the long axis of the implants. These overdentures should be done where the residual posterior ridge anatomy is good so that it can withstand lateral forces on the implant overdenture without undue pressure on the retentive elements.

The latter is known as Implant Supported Overdenture and requires more number of implants to engage the prostheses rigidly thereby not allowing much movement of the prostheses. These types of Overdentures are done in cases where the patient has sufficient bone and economic considerations would otherwise allow a fixed implant anchored prostheses. When the patient presents with poor residual ridge anatomy in posterior ridges, these types of overdentures are better as they do not depend on bone in the posterior areas to derive support for the overdenture, instead they derive that support to lateral forces from the implants itself.

An Overdenture is chosen over fixed implant anchored prostheses as the patient



FIG 1: Two implants For Implant retained tissue supported Overdenture



FIG 2: Locator Attachments for case in FIG 1

may have conditions in the jaw that require removable prostheses. These conditions could be enumerated as follows:

- a.) Severe arch size discrepancy: where the maxilla has resorbed and become significantly smaller than the mandible. In these cases having fixed prostheses in normal

occlusal relation would mean having big facial and buccal cantilevers that could lead to detrimental lateral forces on the maxillary implants.

- b.) Patients with tendency towards nocturnal parafunction: where having



FIG 3: Final Metal Base Denture for case in FIG 1



FIG 4: Four implants to receive Bar Retained Overdenture



FIG 5: Abutment Replica on Casts

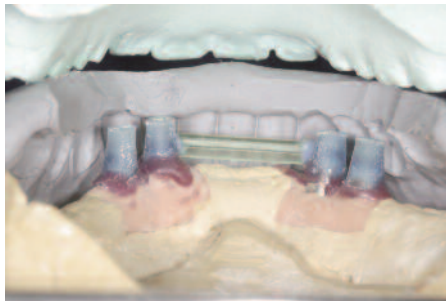


FIG 6: Wax pattern of Bar framework finalized as per tooth setting on the stone cast



FIG 7: Casted Bar with proposed position for Clip that will get incorporated in the denture



FIG 8: Final Denture for case shown in FIG 4

removable prostheses has distinct advantages and help in dissipation of forces that could otherwise, due to their continuous presence lead to technical complications within the implant system.

c.) Patients with exacting speech needs: where having fixed prostheses in the upper arch could lead to air escape from under the anterior pontics between implants leading to difficulty in pronunciation of words that need interaction of tongue with the palate. An Overdenture can take care of this situation as there would be an anterior flange to prevent air escape.

d.) Patients needing lip support for esthetics: where a fixed restoration cannot provide adequate lip support due to absence of a labial flange in atrophied maxillae.

One of the main requirements for doing an Implant Overdenture is adequate Interarch space. A bar supported Overdenture may need as much as 18mm of space from bone crest to opposing tooth whereas a ball and socket will need about 8-9mm. A locator

attachment will reduce the space needed to about 6-7mm.

The main disadvantage of Implant Overdentures is the need for high maintenance over long term. This could be due to fatigue of the retentive elements or need for frequent relines due to posterior accelerated bone resorption. Breakage of the dentures that are frequently hollowed out to house the retentive elements is the single most time consuming complication of an Implant Overdenture, thus it is always more prudent to have metal reinforced dentures.

To summarize Overdentures with implants in fully edentulous patients can be

a boon or a bane and correct surgical and prosthetic protocols have to be in place to make this simple treatment more effective and profitable in the long run.

## About the AUTHOR



**Dr. Ali Tunkiwala** has an MDS in Prosthetic Dentistry from Mumbai University (GDC, Mumbai) in 1998. He is an Accredited Member of the American Academy of Cosmetic Dentistry and Fellowship and Diplomate of International Congress of Oral Implantologist since 2005. He is the Co Director of ITI Mumbai Seacoast Implant Study club that nurtures and guides young clinicians towards ethical and evidence based implant dentistry. He has lectured on various aspects of Prosthetic Dentistry including Occlusion, Full Mouth Rehabilitation and Implants. Presently maintains a Dental Practice focusing on Implants, Aesthetics and Full Mouth Rehabilitation at Santacruz (West) in Mumbai.