

## A Brief Note on Endosseous Implants

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### DESCRIPTION

A dental implant (also known as an endosseous implant or fixture) is a prosthesis that connects to the jaw or skull bone to support a dental prosthesis such as a crown, bridge, denture, or facial prosthesis, or to act as an orthodontic anchor. The physiological process of osseointegration, in which materials like titanium or zirconia develop an intimate contact with bone, is the foundation for modern dental implants. The implant fixture is inserted first to ensure that it will osseointegrate, and then a dental prosthetic is attached.

Before the dental prosthetic is linked to the implant or an abutment that will support a dental prosthetic crown is installed, osseointegration takes a certain period of time. The health of the person receiving treatment, medicines that impact osseointegration, and the health of the tissues in the mouth all have a role in the success or failure of implants.

The implant and fixture will be subjected to a certain level of stress during normal function. Because biomechanical forces exerted during chewing can be high, planning the position and quantity of implants is critical to the prosthetic's long-term health. Healthy bone and gingiva are required for long-term success of osseointegrated dental implants.

Pre-prosthetic operations such as sinus lifts or gingival grafts are occasionally required to restore optimum bone and gingiva after tooth extraction because both can atrophy. The final prosthetic can be either permanent, in which case the denture or teeth cannot be removed from the mouth, or removable, in which case the prosthetic can be removed. An abutment is affixed to the implant fixture in each case. The crown, bridge, or denture is

secured to the abutment with lag screws or dental cement where the prosthetic is fastened. A similar adapter is put in the prosthesis where the prosthetic is removable so that the two sections can be secured together. Dental implants are primarily used to support dental prosthesis. Osseointegration, a biologic process in which bone bonds securely to the surface of particular materials like titanium and some ceramics, is used in modern dental implants. Implant and bone integration can withstand physical demands for decades without failure.

In orthodontics, dental implants are utilised to give anchoring. The use of implants to keep obturators in place is a developing field. Connections to implants inserted in the facial bones can be employed in facial prostheses to treat facial abnormalities. The implant can be used to hold a fixed or detachable prosthetic that replaces a section of the face, depending on the situation. Single tooth restorations are freestanding units that are used to restore missing individual teeth and are not attached to other teeth or implants. In the same way, dental implants can be used to secure a multiple tooth dental prosthesis, such as a fixed bridge or removable dentures.

On a long-term basis, there is limited evidence that implant supported single crowns outperform tooth-supported Fixed Partial Dentures (FPDs). Dental implant therapy, on the other hand, is the first-line strategy for single-tooth replacement due to the good cost-benefit ratio and high implant survival rate. For the restoration of one missing tooth, dental implants have been found to be less expensive and more efficient over time than tooth supported FPDs. The requirement for a surgical procedure is the most significant downside of dental implant surgery.

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