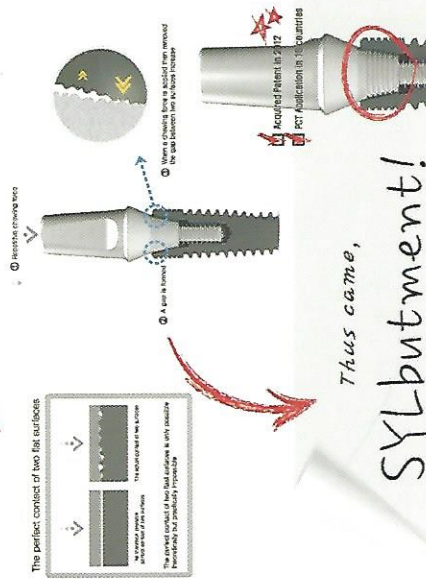
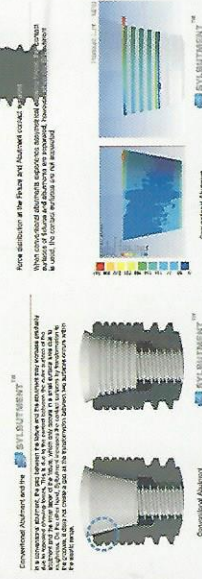


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DEVELOPMENT OF A NEW SEALING ABUTMENT FOR IMPROVING THE CONTACT STATE BETWEEN THE ABUTMENT AND FIXTURE

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RESEARCH OBJECTIVE :
After the concept of body and mobile metal ossointegration had been reported, many researches, experiments and clinical applications had passed. Scientific verifications were made and the effectiveness of dental implants was proved. However, the problem of loosening of dental implants has been a serious problem. This study will address the problem of loosening of dental implants by proposing a new sealing abutment with a different shape in which its usefulness is verified by the Finite Element Analysis.

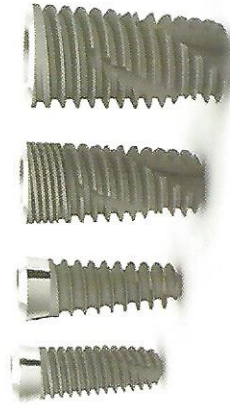
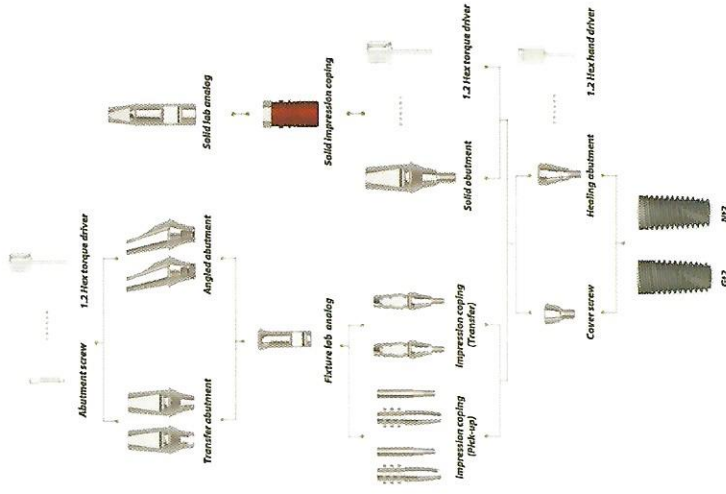
RESEARCH MATERIALS AND METHOD :
Analysis is done by using the Finite Element Method (FEM) Application for Conventional Dental Implant System. Here the Finite Element Analysis on the contact state where the stress is put between the abutment and the fixture is considered. 3D Modeling using ANSYS Workbench is done, and separate case analysis is done on the Sealing abutment and the Conventional abutment.

RESULT :
1) Separate case analysis is done on the Sealing and Conventional abutment.
2) In the case of the Conventional abutment, there is less contact in the fixture. Here gaps can be seen in the abutment and the fixture.
3) In case of the Sealing abutment, few gaps occurred in the fixture section. This means that contact capacity in the abutment and fixture is excellent.
4) In case of the Sealing abutment, when 774.90MPa of pressure and 860MPa of material tensile strength is allowed in the contact part, from separation occurring in the elastic region can be seen.

CONCLUSION :
The ideal basis of the conclusion is that as gaps frequently appear on the fixture portion when conventional abutment is used, the sealing abutment idea is proposed and the analysis performed has verified the result. Therefore in this research, the proposed Sealing abutment's new concept of filling the high contact capacity as the pressure in the cylindrical and conical portion of the abutment is proposed.

Key Words : Sealing abutment, Implant, Finite Element Analysis, Sealing Surface Contact.

Submerged System



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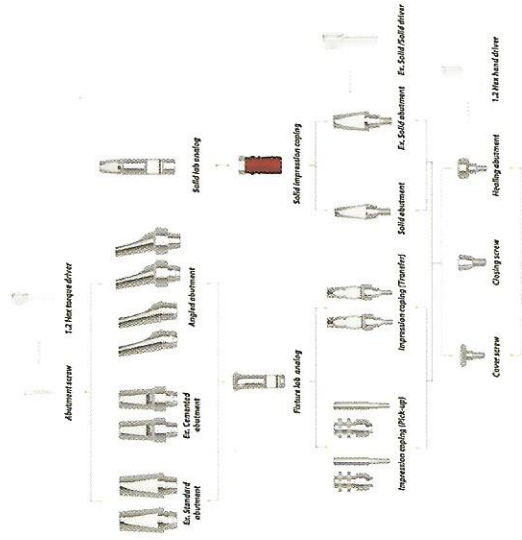
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