

Survival Rate of Implants Supporting Complete Fixed Rehabilitations in the Maxillary Arch - A Retrospective Study

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Abstract

Complete edentulism significantly affects the elderly, with over 10% of those aged 50+ experiencing total tooth loss, predominantly in high-income countries. This condition impacts daily functions like chewing and speech, as well as self-esteem and quality of life. Treating an **edentulous maxilla** is common, yet challenging in terms of rehabilitation.

Method

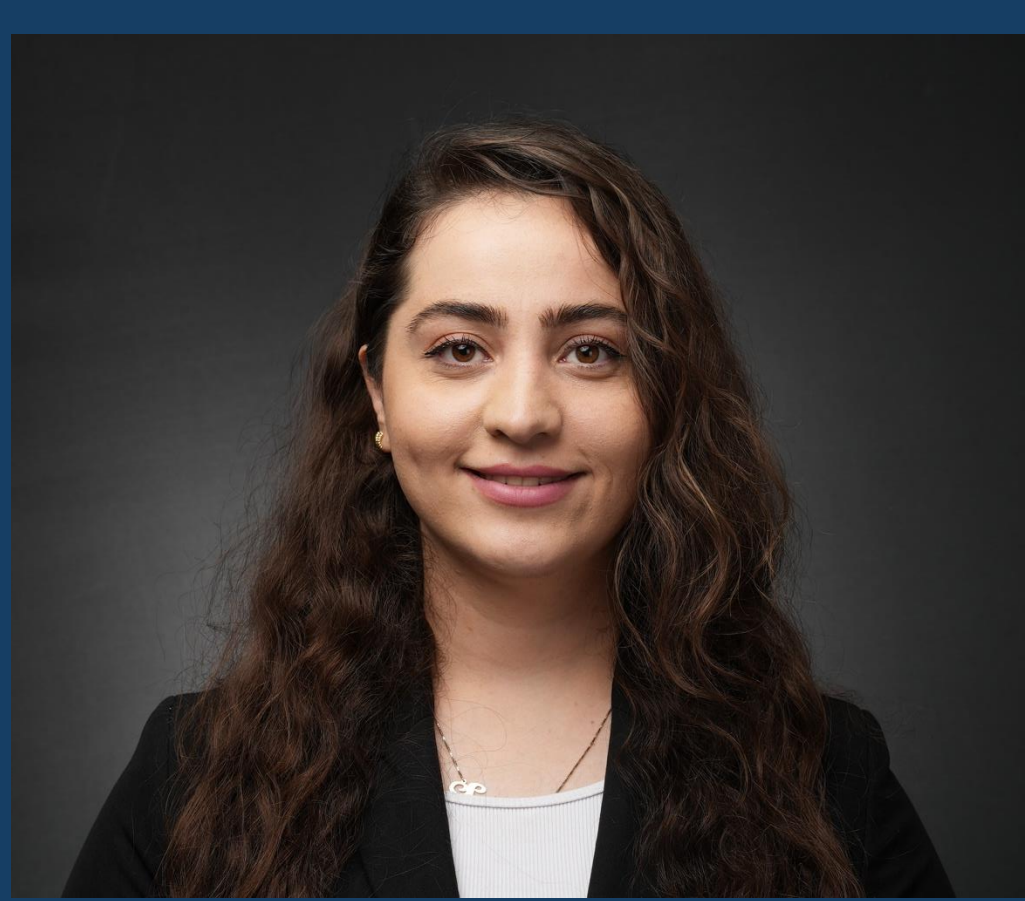
This retrospective study analyzed adult patients treated with **complete fixed implant-supported maxillary prostheses** at Nova Southeastern University from 2012 to 2022. Implant survival was based on ICOI's Pisa consensus, with **success** defined by intact **function** and **structure**, and **failure** by implant **removal**.

Radiographic bone loss (RBL) was measured in 1.0 mm increments, assessing biological complications like peri-implantitis and technical issues, including screw fractures.

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Results

Among 78 patients (mean age 72.2 ± 11) receiving **372** implants, most had **4-5** implants, with 50.7% showing no bone loss >3 mm. **No implant failures** were found in 74.4% of patients, and 39.7% had no biological complications. Most patients (54.7%) received metal-acrylic prostheses, with 92.8% showing no final restoration fractures. Implant survival was 90.9%, and 73.4% met the success criteria. **No significant** associations were found between **implant success** and **patient characteristics** like gender, ASA class, or history of periodontitis.



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Conclusion

This study shows promising outcomes for implant-supported maxillary rehabilitations in an academic-clinical setting, with high survival rates and few complications. Continued follow-up and maintenance are essential for long-term success, and further research may uncover additional factors influencing implant outcomes.

Metric	Value
Total Patients	78
Total Implants	372
Mean Age	72.2 ± 11
Implants per Patient (4-5)	Majority
No Bone Loss >3mm	50.7%
No Implant Failures	74.4%
No Biological Complications	39.7%
Metal-Acrylic Prostheses	54.7%
No Final Restoration Fractures	92.8%
Implant Survival Rate	90.9%
Success Criteria Met	73.4%