



**HADER**  
SOLUTIONS



*A True Evolution in  
Dental Attachments*

*Hader REFLEX*

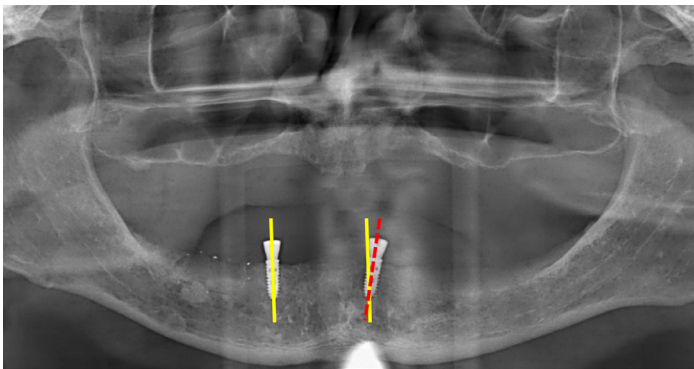


**Swiss  
Made**

[WWW.HADER.EU](http://WWW.HADER.EU)

# PROBLEM

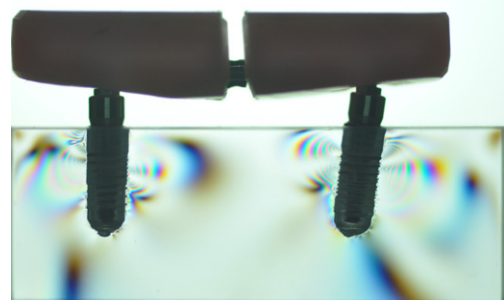
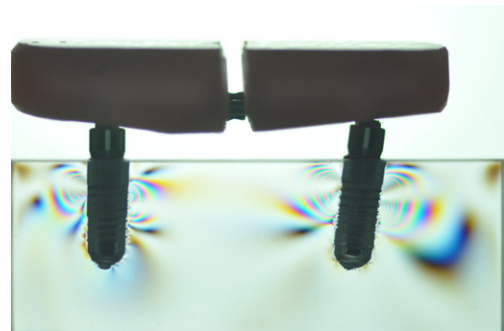
Attachments have long been a trusted solution for securing removable prostheses, enhancing retention and patient comfort. Various systems—such as ball anchors, Locators, telescopic crowns, and bars—have been developed to meet different clinical needs. However, persistent challenges compromise their long-term effectiveness. Retention loss, especially in prefabricated systems, results in **frequent maintenance, increased patient visits, and higher costs**. Implant misalignment and transfer inaccuracies, common in both clinical and laboratory settings, lead to **uneven load distribution, excessive strain, and accelerated wear**, reducing prosthesis stability. Traditional designs attempt to mitigate these issues by applying coatings and incorporating various resin materials as retentive inserts, but fail to fully resolve them. As a result, patients often experience **discomfort, mechanical failures, and the need for frequent adjustments**, highlighting the urgent demand for a new standard in dental attachment reliability and performance.



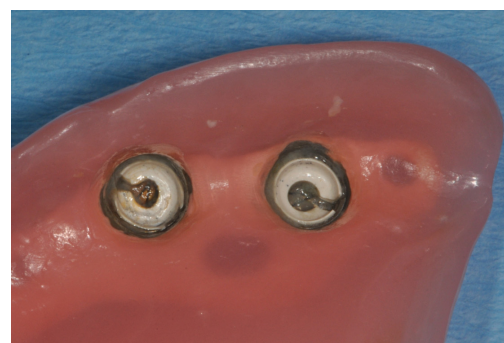
Design and Numerical-Method-Aided Optimization of a Novel Attachment System for Implant-retained Dental Prostheses Using NiTi Shape Memory Alloys. Appl. Sci. 2023, 13, 491.

## CHALLENGES OF TRADITIONAL DENTAL ATTACHMENTS

- ▶ **Retention Loss Over Time.** Most prefabricated systems gradually lose retention, often requiring frequent replacements.
- ▶ **Retention Uncertainty Due to Misalignment.** Implant misalignment and transfer inaccuracies affect the retention force of prefabricated components, making it challenging for dental professionals to select the most predictable option.
- ▶ **Increased Maintenance Needs.** Wear of attachment components leads to frequent patient visits and costly repairs.
- ▶ **Misfit.** Stress and misalignment on rigid attachments increase the risk of component failure.
- ▶ **Higher Long-Term Costs.** Studies show that maintenance costs for Locator-type attachments can equal or exceed the initial treatment cost after five years.



Major Complications of Implants Retaining Removable Prostheses - Case Reports and Proposal of a Novel Attachment Concept. Austin J Clin Case Rep. 2025; 12(1): 1348.



Wear of retentive insert.

# SOLUTION

## HADER REFLEX: A TRUE EVOLUTION IN DENTAL ATTACHMENTS

**HADER REFLEX** is a revolutionary flexible ball abutment designed to **redefine retention in implant-supported prosthetics**. Engineered to address the limitations of current attachment systems, this smart solution compensates for implant misalignments and transfer inaccuracies.

Its unique flexibility **minimizes wear on attachment components**, extending longevity while reducing maintenance and patient visits. **REFLEX** provides a more predictable and reliable retention system, enhancing treatment precision and improving both clinical outcomes and patient satisfaction.

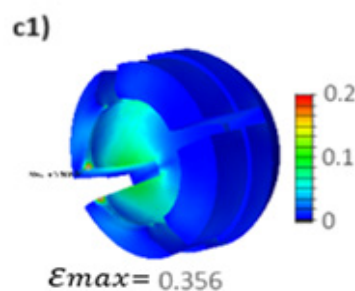


### KEY BENEFITS OF HADER REFLEX

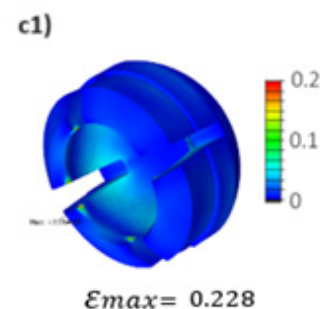
- ▶ **Self-Adjusting for Misalignments.** The smart design of HADER REFLEX compensates for implant misalignment and transfer inaccuracies, ensuring a passive and secure fit.
- ▶ **Minimizes Wear.** Optimises load distribution on attachment components, reducing material fatigue and the need for frequent replacements.
- ▶ **Predictable & Consistent Retention.** Delivers reliable retention regardless of implant angulation, allowing practitioners to select the optimal attachment with confidence.

### Deformation of plastic inserts

With standard ball abutment



With **HADER REFLEX**



Finite Element Combined Design and Material Optimization Addressing the Wear in Removable Implant Prosthodontics. Journal of Functional Biomaterials, 15(11), 344

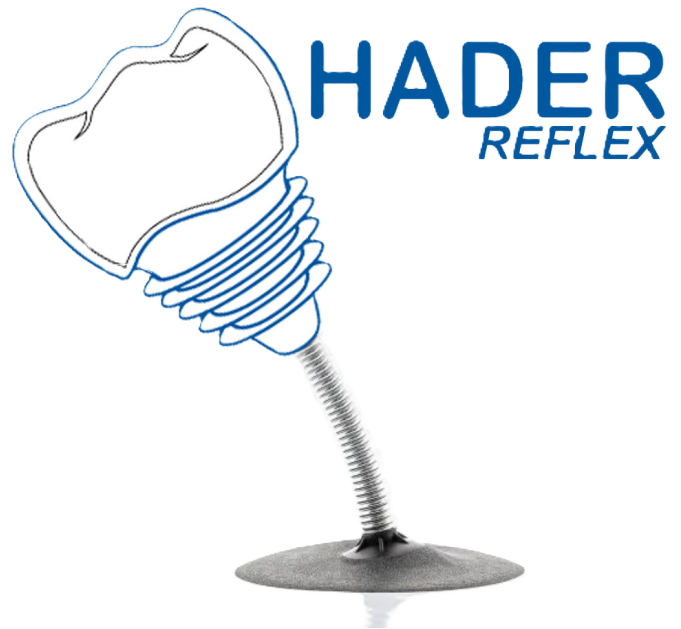


## WE WANT TO HEAR FROM YOU!

At **HADER SOLUTIONS**, we value your expertise! Your experience with dental attachments is key to shaping the future of implant prosthetics.

- **Share your insights.** Tell us about the challenges, solutions, and innovations you've encountered in your practice.
- **Be part of the innovation.** Your feedback helps us refine HADER REFLEX and develop the next generation of attachment systems.
- **Stay updated.** Get exclusive insights on our latest research, advancements, and innovations in dental prosthetics.

**Scan the QR code** or **visit [www.hader.eu](http://www.hader.eu)** to take a short survey and be part of the innovation! We'll keep you up to date with the latest advancements in this and other important developments.



**Take the Survey!**

## EXPLORE THE SCIENCE BEHIND HADER REFLEX

**HADER REFLEX** is backed by extensive research and scientific validation. Our development is built upon cutting-edge studies analysing attachment performance, material longevity, and the benefits of flexible abutments. To explore the data supporting this innovation, scan the QR code or visit the **HADER REFLEX** section on our website **[www.hader.eu](http://www.hader.eu)** to access the full research papers and learn how **HADER REFLEX** is redefining implant-retained prosthetics.



**Learn about REFLEX**

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