

Title: Dental Splint Device

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KEYWORDS: Splint, Dental injury, Stainless Steel, Dental Injury, Circular ring

DOMAIN: Material Science

SUMMARY:

The traditional splint devices often lack comfort, are high-priced due to the material used, and require laborious handling techniques. Hence, the uniquely designed splint device discussed here is an alternative to all other existing splint devices. Comprised of stainless steel, it is a ready-to-apply dental device that provides the necessary stabilization to the teeth during the treatment of traumatic dental injuries, including dental avulsion, loose teeth, and bone fracture.

Structure of the Splint Device

It is a planar lattice structure with circular rings serving as repeating units, linearly interconnected over the required distance, resembling a chain. Each circular ring contains plus-shaped retentive struts to enhance the adhesive tooth surface adhesion



Figure: Splint device fixed on a model tooth

ADVANTAGES:

1. Cost-effective material that provides on-par mechanical strength and biocompatibility with Titanium.
2. Imparts unparalleled aesthetic appeal with the optimum comfort level.
3. Limits soft tissue damage and prevents plaque accumulation.

APPLICATION: Treatment of traumatic dental injuries.

SCALE OF DEVELOPMENT: Functional prototype development at lab-scale.

TECHNOLOGY READINESS LEVEL: TRL 4

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