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METAL-BAR REINFORCEMENT OF LONG-SPAN ZIRCONIA FRAMEWORKS

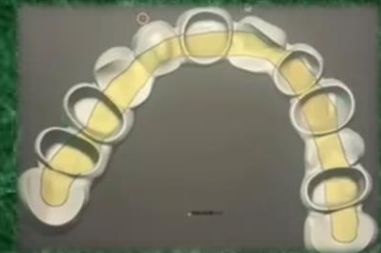
Introduction:

Long-span zirconia fixed dental prostheses (FDPs) are widely used due to their excellent esthetics and biocompatibility. However, their clinical reliability may be compromised by mechanical failure, mainly due to tensile stress concentration in connector areas.



Materials and methods:

The concept is supported by biomechanical principles and evidence from in vitro and computational studies.



Results:

The incorporation of a metal bar helps redistribute occlusal forces, reducing tensile stress in critical regions, particularly in connectors. As a result, reinforced frameworks demonstrate improved load-bearing capacity and a reduced risk of crack initiation and propagation.



Conclusion:

Metal-bar reinforcement is a reliable strategy for improving the strength, longevity, and esthetic performance of long-span zirconia FDPs, providing predictable and durable results in complex prosthodontic rehabilitations.