

# Porcelain Veneers Fracture Resistance Systematic Review

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## INTRODUCTION

Based on unequivocal properties, comparably low costs and ease of fabrication, porcelain is currently the preferable material for veneers.

Determining properties such as resistance to fracture have a prominent influence on its usage in prosthetic dentistry.

## AIM

To review scientific literature and analyse its findings on ceramic materials that are used for laminate veneers manufacturing in regard to their fracture resistance properties.

## METHODS

This article follows the PRISMA statement. The literature search was performed in PubMed, Wiley Online Library and ScienceDirect databases. Articles were published between 2016 and 2021 in English language. Search was conducted by using different combinations of specific keywords. 481 publications were found. The titles and abstracts were analysed, followed by the selection of complete articles for reviewing and analysis according to the eligibility criteria.

## RESULTS

There was a noticeable relation between the choice of restoration materials and fracture resistance. Regardless of differing thermomechanical aging cycles and compressive load it was possible to summarise that zirconia-lithium disilicate exhibited the most favourable results in fracture resistance and so did resin nanoceramic veneers.

## CONCLUSIONS

Zirconia-reinforced lithium silicate veneers showed the most favourable outcomes when analysing their resistance to fracture. The risk of veneering restoration material fractures increases significantly, when anterior veneer preparations are  $\leq 0.5$  mm. Ceramic veneer restoration materials are more prone to fractures, when the preparations include medium to high dentine portions ( $\geq 50\%$ ).

### Materials used in each study

- Z-RLS- zirconia reinforced lithium silicate
- HC-hydric ceramic
- LD-lithium disilicate
- LR-GC-leucite reinforced glass ceramic
- C-composite
- Z-zirconia
- FC-feldspathic ceramic
- MC-metal ceramic

