

INTRODUCTION

- Zirconia ceramics are the most preferred for indirect restoration
- High aesthetic satisfaction, strength and durability
- Long term effects have detrimental impact on opposing teeth surfaces
- Novel 3D printable resin TC80DP, a possible alternate to Zirconia



AIM AND OBJECTIVE

To compare and evaluate the flexural strength, Fracture resistance, wear resistance of 3d printable resin TC80DP and ceramic inlays.



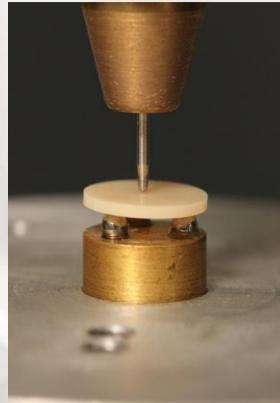
FLEX,FRACTURE,WEAR: AN INLAY FACE OFF!



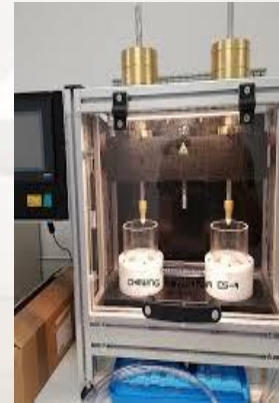
FRACTURE TOUGHNESS



FLEXURAL STRENGTH

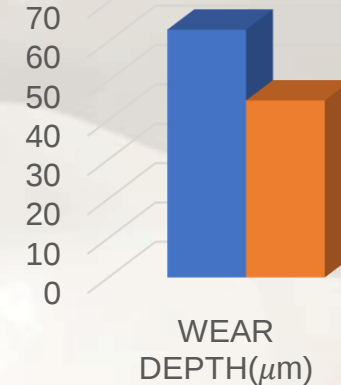
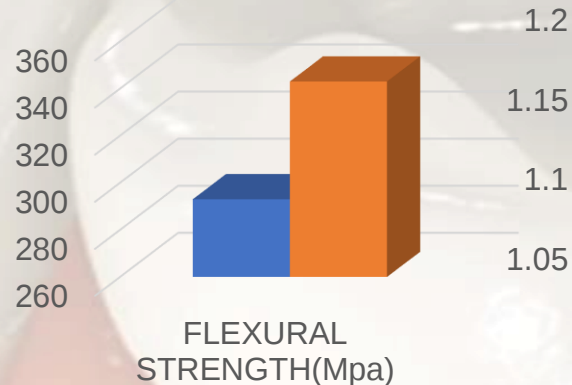


WEAR RESISTANCE



■ ZIRCONIA ■ TC80DP

MATERIALS AND METHODS



DISCUSSION

- Universal testing machine, 3 point ball test and chewing stimulation tests were carried out on 10 samples each of Zirconia inlays and TC80DP inlays
- Statistically significant results for flexural strength and wear resistance
- Both materials show similar fracture toughness, suggesting equivalent resistance to crack propagation
- The material's strength, wear resistance, and tooth-friendly characteristics make novel TC80DP versatile for various restorations.

CONCLUSION

The research results imply that, in lieu of zirconia, TC80DP material has a low measure of wear depth along with high flexural strength and toughness. Further research on TC80DP could be done to evaluate and assess its accuracy and potential as a future ceramic substitute.