



# Color stability of restorative materials after exposure to plaque disclosing agents

Zeyad Naji\*, Muthyib Albaqami, Fouad Salama

College of Dentistry, King Saud University, Riyadh Saudi Arabia

P19

## Background

External discoloration is still a problem for restorative materials. In modern dentistry, a large emphasis is rested over esthetics. Hence, it is important to understand the various agents capable of adversely affecting the esthetics of a restoration due to its staining capacity. Minimal information is existing concerning influence of different plaque disclosing agents on staining and color stability of different restorative materials and possibility of removing the stain with manual polishing.

## Purpose

The purpose of this investigation was to evaluate the color stability of three restorative materials after exposure to three commercially available plaque disclosing agents and to assess the possibility of removing the stain using Sof-Lex polishing discs.

## Materials and Methods

Forty cylindrical specimens were prepared from three restorative materials. Specimens were randomly assigned into four groups/10 each according to disclosing agents and control (distilled water). Specimens were immersed in the assigned disclosing agent or distilled water as control. Specimens were polished sequentially with 240, 320, 400, and 600 silicon carbide paper and final polish using Sof-Lex discs. Specimens were thermocycled 1500 times cycles. The color difference ( $\Delta E$ ) was measured before (T1) and after (T2) application of disclosing agent and following polishing (T3) with discs using a spectrophotometer.

## Results

There was significant difference in color in resin-modified ( $p=0.0001$ ) and conventional ( $p=0.001$ ) glass-ionomer at all tested times with use of 2Tone disclosing agent. There was significant difference in color in conventional glass-ionomer ( $p=0.023$ ) at all tested times with use of GUM Red-Cote disclosing agent. No significant difference in color of all tested materials at all tested times with use of Trace disclosing agent. No significant difference in color of all tested materials at all tested times for the control group where distilled water was used.

## Conclusions

- ❑ Resin-modified glass-ionomer showed the highest color difference with the use of 2Tone disclosing agent.
- ❑ Trace disclosing agent and distilled water (control) did not show difference in color of all tested materials at all tested times.

## References



## Acknowledgements or Contact

"The authors extend their appreciation to the Deanship of Scientific Research at King Saud University for funding this work through the Undergraduate Research Support Program, Project no. (URSP - 3 - 18 - 101 )."