**Introduction**

The clinically beneficial properties of Tokuyama Universal Bond make the material an viable choice for pediatric dental patients. The adhesive system does not require photoinitiation prior to restoring with composite resin. In vitro studies on its performance, especially on deciduous teeth, is scarce. Therefore, the purpose of this study was to evaluate the microtensile bond strength of adhesive interfaces created on primary dentin with self-cure and light curing adhesives.

**Methods**

- 13 sound and carious human primary molars were collected and randomly assigned to two groups, (1) self-cured group in which Tokuyama Dental universal bonding system was utilized (TUB) and (2) light-cured group in which Scotchbond Universal 3M ESPE universal bonding system was utilized (SBU).
- Carious tissue was removed prior to application of bonding agent.
- After storage in water for 24 hours at 37 °C, restored teeth were cut into beams of ≅ 0.5 mm².
- For µTBS test, beams were actively gripped onto testing device (Geraldeli's V-1) and tested in a universal testing machine.
- Normality test Shapiro-Wilk and one-way ANOVA at α=0.05 were used as statistical methods.

**Results**

- The average area of the beams was 0.55 mm².
- The SBU group showed an average microtensile bond strength of 73.87 MPa, with a standard deviation of 26.8.
- The TUB group showed an average microtensile bond strength of 47.26 MPa, standard deviation of 15.5.
- The SBU group had a statistical difference (p=0.00008) over the TUB group.
- The failure pattern of the SBU and the TUB groups was adhesive for 88.8% and 90% of the beams and cohesive for 11.2% and 10% of the beams, respectively among groups.
- No mixed failure pattern was observed.

**Discussion**

- This study should be continued with additional primary teeth to verify these preliminary results.
- In a future study, permanent teeth may be utilized as a reliable control group.

**Conclusion**

- Although the microtensile bond strength of TUB (47.26 MPa ± 15.5) was lower than SBU (73.87 MPa ± 26.8), we hypothesize that it may provide an effective adhesive interface longevity for intracoronal restorations of flowable resin-based composite restorations.2,3 Clinical studies are warranted to answer this hypothesis.

**Acknowledgements**

Part of this research was supported by East Carolina University/REDE Faculty Startup Fund (PI: Saulo Geraldeli, #120195-671421)

**References**