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**COMPARATIVE CHARACTERISTICS OF GENERATIONS
OF ADHESIVE SYSTEM**

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Relevance. Dental adhesives are solutions of resin monomers that make the resin dental substrate interaction achievable. Adhesive systems are composed of monomers with both hydrophilic groups and hydrophobic groups. The former enhances wettability to the dental hard tissues, while the latter allow the interaction and co-polymerization with the restorative material. The chemical composition of adhesives also includes curing initiators, inhibitors or stabilizers, solvents and, in some cases, inorganic filler. However, it is necessary to consider the anatomy of tooth. In particular, composition and structure of two main tissues, enamel and dentine, need to be examined in order to understand how they influence adhesive bonds. Details of the composition of these tissues are shown in. The mineralized part of the tooth is a complex structure made of different hard tissues, which have a quite distinct ultra-morphology and composition. In this article we compare adhesive system generation IV, V and Universal.

Aim: to find the appropriate dental adhesive system, to examine effect of each generation, to see which one requires proper processing for good preservation and sealing.

Materials and methods. 15 Extracted teeth (3 groups, 5 teeth in each group), diamond burs, etching acid (phosphoric acid 37%), adhesive system generation IV, V, Universal, restorative material (light-cure composite, flowable and regular), dental curing light, preparation of cavities, total etching, selective etching, self-etching, Scanning Electronic Microscope (SEM).

Results and their discussion. The IV generation of adhesive system showed us the best hybrid layer and properties, even better than V and Universal. V generation also showed good result according to hybrid layer. Bond Universal had the thickest hybrid layer compare to the IV and V generation that is not good for attachment.

Conclusion: now a days in whole of the world dentists are agree that IV generation still has a good result to compare to the others. IV generation just has a one disadvantage that is about steps of using, it has 3 steps as separate components: total etching, prime, and adhesive, that it means dentists should to spend more time to use this generation.