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AT THE
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Seminar!

Tuesday

June 6,
2017

3 CE Credits

"To Pull Or
Not To Pull"

Presenter:
Daniel Pompa,
DDS

Registration
Dinner
5:30 pm

Lecture
6:00 - 9:00 pm

Knights of
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9A Hewitt
Square,
East North-
port, NY

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Removable Prosthodontics: Denture Adhesives

Papadiochou S, Emmanouil I, Papadiochos I: Denture adhesives: A systematic review. J Prosthet Dent 113:391-397,2015

Clinical Significance: Clinical studies do not show that denture adhesives promote any alteration in the oral microbial population and indicate they have no role in oral diseases or alveolar bone resorption. Denture wearers who use these products tend to view them positively overall as long as they fulfill the patient's needs. *Educators need to include information about denture adhesives in their courses as appropriate, and dentists should convey accurate information about the products to their patients with dentures.*

Background: Denture wearers worldwide use denture adhesives to improve denture retention and stability, which allows better function and speech production. In vivo studies confirm that denture adhesives enhance the overall performance of complete dentures and increase their resistance to dislodgment forces. *However, denture adhesive materials are not generally included in dental school curriculum and most dental professionals express no preference for the various materials.* A systematic review of the available literature looked at denture adhesive effectiveness with respect to retention, stability, mastication, and biocompatibility. Patient and dental professional attitudes toward denture adhesives were also noted.

Methods: The Medline data base was searched electronically and manually, and 32 articles relevant to this study were identified. Twenty-one evaluated the efficacy of denture adhesives with respect to retention, stability, and masticatory performance. Six assessed the biocompatibility of denture adhesives. Five presented patients' and/or dental professionals' attitudes toward denture adhesives.

Results: Studies of denture adhesives' effectiveness use multiple techniques to provide objective measures of performance, so the results are difficult to compare. Most evidence indicates that retention and stability of removable dentures are significantly increased with denture adhesive use. Mastication time is reduced and mastication rate increased. Greater effectiveness was achieved by applying denture adhesives to both dentures rather than just the maxillary prosthesis.

A cushion adhesive was found to be most effective in achieving clinical improvement for patients with poor to fair dentures or prosthesis-bearing tissues. The material adjusts to both the supporting tissues and the intaglio of the denture. The cushion adhesive's effect lasts over 10 hours, with a range between 3 to 12 hours for denture adhesives of all types. Retention with paste adhesives lasts between 4 and 10 hours. Paste adhesives also perform longer in maxillary than in mandibular dentures.

Paste-type adhesives are most effective in improving incisal force, followed by powder and strip adhesives. Mandibular dentures demonstrate lower retention, stability, and support than maxillary removable prostheses because they are smaller and oral and tongue muscles exert more disruptive force. As a result, mandibular denture adhesives demonstrate a shorter length of effect.

Scientific evidence does not support the supposition that denture adhesives, properly used, can cause oral pathologic conditions, excessive bone resorption, or altered vertical dimension, occlusion, or taste. The data regarding potential microbial contamination from denture adhesives are limited.

Patients who wear removable dentures may add increasing quantities of adhesives as alveolar bone resorption makes their dentures less well-fitting rather than seek the dentist's help. The risks of continuing to wear dentures that are ill-fitting, potential hyperzincemia from excessive ingestion of denture adhesive, and possible concealment of a tumor should be explained to the patient when dental adhesive use is begun. Fifty-nine percent of oral cancer cases have been reported in persons who are edentulous.

Prosthodontic educators acknowledge that denture adhesives offer patients benefits, including improved denture fit and comfort. *However, they also have concerns about the possibility of using the adhesive to mask underlying problems and facilitating patients not seeking dental care appropriately.* They also cited concern over denture adhesives promoting oral diseases or conditions such as denture stomatitis, candidiasis, unbalanced oral flora situations, and alveolar bone resorption, although they did not believe oral cancer or leukoplakia results from denture adhesive use. Educators also supported the integration of denture adhesive information into both denture wearer education and predoctoral dental curriculums.

Patients are often unaware of the existence or advantages of denture adhesives. Some used them in the past but have discontinued their use. Often they cite a lack of effectiveness as the main reason for stopping the use of adhesives. Denture adhesive use ranges from one (1) week to thirty (30) years, with most patients reporting use between one week and 3 years.

Discussion: Denture adhesives can significantly improve complete denture performance and offer several benefits to patients. *Knowledge about these products among both educators and the general public is lacking, and some misconceptions are held that should be addressed by a review of the evidence.*