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Sealant Research Review

Clinical Study Confirms Efficacy of Moisture-Tolerant Resin-Based Sealant

In his practical interpretations of current investigations published in the Research & Applications section of *Inside Dentistry*, Dr. Howard Strassler states: "Practice-based studies are becoming more important in providing clinically relevant information on the performance of dental procedures and materials in a busy dental practice rather than a controlled study where time and cost is not an issue."[1]

Evidence based studies in a real-life dental practice that do not screen out difficult patients may have more practical relevance than some university studies that use recruited patients and are paid for by manufacturers seeking positive outcomes.

In an article entitled "A Moisture-Tolerant Resin-Based Pit-and-Fissure Sealant: Research Results" Joseph P. O'Donnell, DMD, MS reports on a 2-year clinical study that shows remarkable success using Embrace WetBond Pit and Fissure Sealant.[2] Dr. O'Donnell followed 1102 teeth sealed for 2-3 years with Embrace WetBond. None of the sealed teeth had occlusal caries after the 2-3 year period.

Dr. O'Donnell is currently collecting 5-year data for publication later this year. The study was begun in 2002.

The following quotations are important excerpts from the research and applications article and commentary.

1. Strassler HE. Commentary: A moisture-tolerant resin-based pit-and-fissure sealant: research results. Inside Dentistry 2008;4(7):50-52

2. O'Donnell JP. A moisture-tolerant resin-based pit-and-fissure sealant: research results. Inside Dentistry 2008;4(7):50-52.

Joseph P. O'Donnell, DMD, MS

"When permanent molars erupt there is typically a gingival operculum over the distal surfaces of these teeth, which leads to difficulty in controlling moisture during sealant placement and significantly lowers retention of the sealant. One solution has been to use moisture-tolerant glass ionomer cements. Eg, GC Fugi TRIAGE® (GC America, Alsip, IL), as sealants. Unfortunately, the research has shown these to be less durable than resin-based sealants. [1]

"[Embrace] sealants were placed in the author's dental practice for 1102 posterior teeth. There was no prescreening of patients. Even difficult patients and children with poor oral hygiene and dietary habits were included in the study. At the 2-year recall it was found that none of the teeth evaluated had developed occlusal caries. [2]

"Because moisture contamination is a significant risk factor to sealant retention, the introduction of a moisture-tolerant resin-based sealant that is clinically successful provides clinicians with an additional choice in their preventive regimen. [2]

"With Embrace WetBond sealant, the dentist and dental hygienist now have a water-tolerant, resin-based sealant that can be successfully used for early-erupting permanent first and second molars and all sealant placement. [2]

Dr. O'Donnell is Clinical Associate Professor, Department of Pediatric Dentistry, Tufts University School of Dental Medicine, Boston, Massachusetts. Private practice, Winchester, Massachusetts.

Dr. Strassler is Professor and Director of Operative Dentistry, Department of Endodontics, Prosthodontics and Operative Dentistry, University of Maryland Dental School, Baltimore, Maryland.